Run

```
Title:
Perfect so
Sequence:
                                                                                                                                                                                                                      Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Scoring table
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Wnw
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          0
::
                   11 number
                                                                                                                                                                                                                                                                          Pred.
score
and is
       . 4166.5
3769.5
1054.5
1033.5
1033.5
949
920
864
839
451
406.5
359.5
340
340
327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DB
Bd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    score:
                                                                                                                                                                                                                    Score.
                                                                                                                                                                                                                                                                            1:
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 seq
seq
                                                                                                                                                                                                                                                                        No. is the nu greater than s derived by a
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           protein search,
                                                                                                                                                                                                                                                                                                            Published_Applications_AA:*

1: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/PCT_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

8: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*

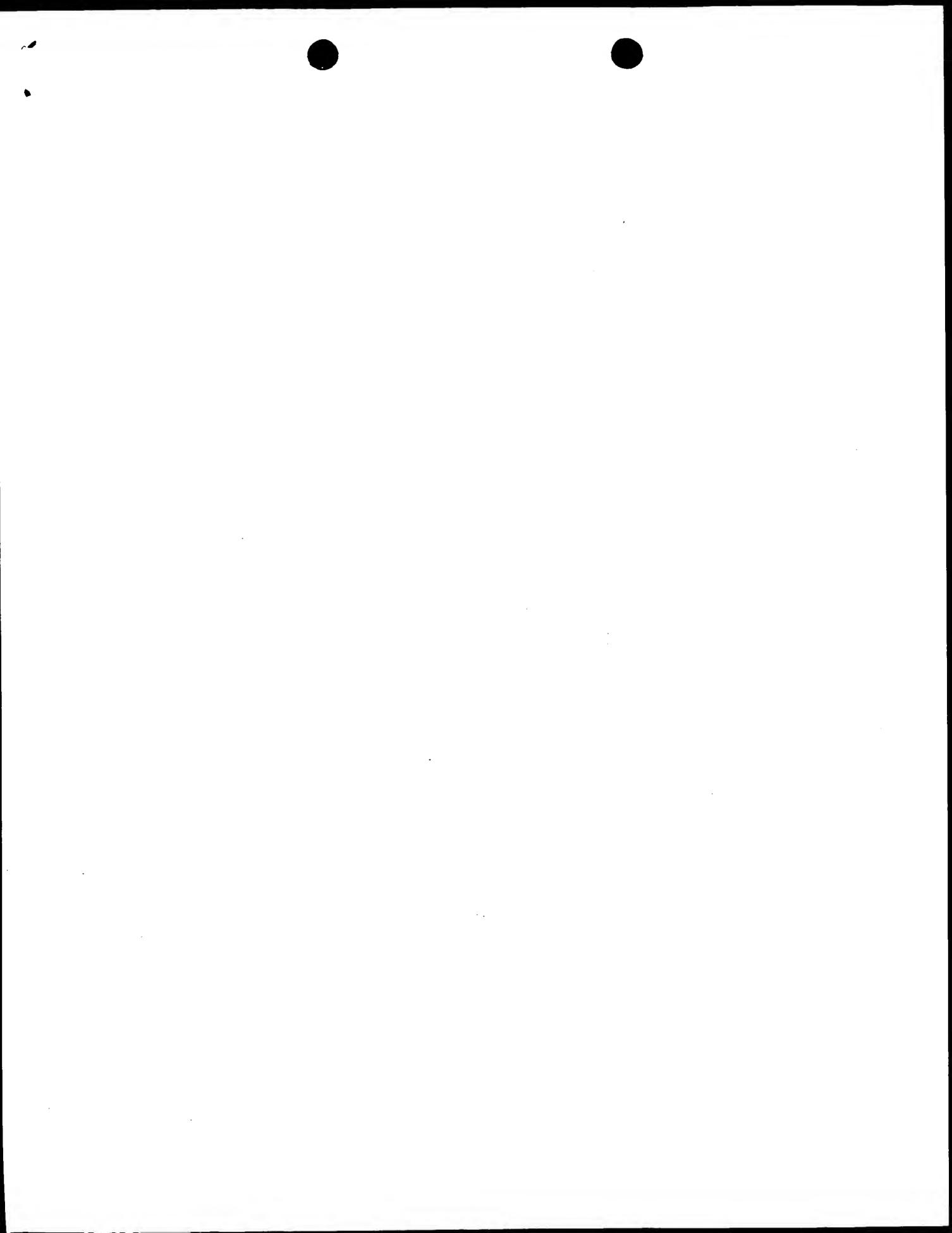
14: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               length:
length:
                                                                                                                                                                                                                    Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
Gapop 10.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              hits satisfying chosen
                                                                                                                                                                                                                                                                                                                     10:
11:
12:
13:
14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-09-645-835A-2
4376
1 VKKTYGYIGSVAAILLATHI.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ма́у 19, 2003, 07:51:03 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   362588 seqs,
      95.2
86.1
24.1
23.6
23.6
23.6
21.7
21.7
21.0
19.7
19.7
19.3
8.9
8.9
8.2
7.8
7.8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum
Maximum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        10.0 ,
                                                                                                                                                                                                                      Length
                                                                                                                                                                                                                                                                        number of resu
an or equal to
by analysis of t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               20000000000
      793
715
838
840
763
796
1039
1039
11238
1365
1378
1378
1126
1999
1126
1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match
Match
first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GenCore version (c) 1993 - 2003
                                                                                                                                                                                                                      DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gapext
       96450795 residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    0%
100%
   US-09-252-088-15
US-09-252-088-15
US-09-884-465A-8
US-09-884-465A-7
US-09-884-465A-7
US-09-884-465A-6
US-09-884-465A-10
US-09-884-465A-381
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-383
US-09-884-465A-383
US-09-884-465A-383
US-09-884-465A-383
US-09-884-465A-383
                                                                                                                                                                                                                                                                       results predicted by to the score of the of the total score di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         0
                                                                                                                                                                                                                                                    SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Search time 237.022 Seconds (without alignments)
335.715 Million cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       5.1.4_p5_4578 Compugen Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YNKNGELVTYDIKTLQQINP
                                                                                                                                                                                                                                                                      by chance to have a he result being printed, distribution.
Sequence 15, Appl Sequence 8, Appli Sequence 8, Appli Sequence 7, Appli Sequence 7, Appli Sequence 66, Appli Sequence 6, Appli Sequence 10, Appl Sequence 10, Appl Sequence 381, App Sequence 378, App Sequence 379, App Sequence 379, App Sequence 379, App Sequence 376, App Sequence 383, App Sequence 380, App Sequence 380, App Sequence 384, App Sequence 384, App
                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      825
```

210

DLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPAPGRRKA

269

Qy Db	US RE		
Query Best L Matche 6	SULT 1 -09-25 Sequen Sublic GENERA APPLI A		22222222222222200000000000000000000000
Match Local Sim es 787; es 787; 30 MGSATK 1 MGLATK 90 HFYNGK 61 HFYNGK 50 RTKQQI 1	2-088-15 ce 15, p ce 15, p ation Nc L INFORM CANT: BF CANT: BF CANT: BF CANT: HP CANT: HP CANT: HP CANT: MP CANT: MP CANT FILIN R OF SEC R OF SEC ARE: Pat NO 15 TH: 793 TH: 793 TH: 793 TH: 793		239 233 207.5 207.5 200.5 200.5 200.5 200.5 200.5 197 192.5 191.5 191.5 191.5 191.5
Conserva Conserva DNQIAYIDD	If cati	•	S S S S S S S S S S S S S S S S S S S
95. 98. 98. SKGK SKGK ELLM ELLM ELLM	n US 0316 rnar rnar ine ise ise vel 002 002 002 444 44 2.		00000000000000000000000000000000000000
	CO 02 CR be d 82		$ o \phi o $
Score 4166.5; DB 9; Pred. No. 3.7e-289; 4; Mismatches 2; I PKTNKTMDQISAEEGISAEQIVVK	252088 1 1e 1e UP B STREPTOCOCCUS ANTI \$/09/252,088 18 8/60/075,425 20	ALIGNMENTS	US-09-884-465A-370 US-09-884-465A-334 US-09-884-465A-332 US-09-884-465A-372 US-09-884-465A-337 US-09-884-465A-337 US-09-884-465A-337 US-09-884-465A-347 US-09-884-465A-361 US-09-884-465A-361 US-09-884-465A-362 US-09-884-465A-367 US-09-884-465A-333 US-09-884-465A-351 US-09-884-465A-351 US-09-884-465A-352 US-09-884-465A-357 US-09-884-465A-359
Length 793; Indels 3; Gap ITDQGYVTSHGDHY 8	GENS		sequence 370, sequence 334, sequence 332, sequence 343, sequence 343, sequence 347, sequence 347, sequence 361, sequence 361, sequence 361, sequence 361, sequence 367, sequence 369, sequence 351, sequence 351, sequence 351, sequence 352, sequence 352, sequence 359, sequence 359, sequence 359, sequence 359, sequence 360, sequence 360, sequence 360, sequence 360, sequence 345,
s 2 9 0 49 20 09			App



```
RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
V
                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          멍
                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
   Query Match
Best Local S
Matches 710
                                                                                                                                                                 APPLICANT: BRODEUR, I
APPLICANT: BRODEUR, I
APPLICANT: RIOUX, Cli
APPLICANT: BOYER, Ma:
APPLICANT: CHARLEBOI
                                                                                                                                                                                                            Sequence 16, Ap
Publication No.
                                                                                                                                                                                                                             -09-252-088-16
                                                                                                                                                 APPLICANT:
                                                                                    TITLE OF INVENTION: NOVEL GROUP B STREPTONE FILE REFERENCE: 8331-9002
CURRENT APPLICATION NUMBER: US/09/252,088
CURRENT FILING DATE: 1999-02-18
EARLIER APPLICATION NUMBER: US/60/075,425
EARLIER FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 44
                                                                               SOFTWARE:
                                      ORGANISM: group
9-252-088-16
                                                              LENGTH: 715
                                                                                                                                                                                                                                                                778
                                                                                                                                                                                                                                                                                                                  750
                                                                                                                                                                                                                                                                                                                                   659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        419
                                                                                                                                                                                                                                                                                                                                                                    599
                                                                                                                                                                                                                                                                                                                                                                                                      539
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         450
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             330
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                181
    Local Similarity
les 710; Conser
                                                       PRT
                                                                                                                                                                                                                                                              HAGNATYDTGSSFVIPHIDHIHVVPYSWLTRDQIATIKYVMQHPEVRPDIWSKPGHEESG
                                                                                                                                                                                                                                                                                                                                                                                                                                  PSEASK-EEKESDDFIDSLPDYGLDRATLEDHINQLAQKANIDPKYLIFQPEGVQFYNKN
                                                                                                                                                                                                                                                                                                      PSEASKEEEKESDDFIDSLPDYGLDRATLEDHINQLAQKANIDPKYLIFQPEGVQFYNKN
                                                                                                                                                                                                                                                                                                                              SFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDTDKPKEKQQADKSNENQQ
                                                                                                                                                                                                                                                                                                                                                              FHY I GFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDGKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FHYIGFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDGKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RIOUX, CIMC
                                                                               PatentIn
                                                                                                                                                  MARTIN,
                                                                                                                                                                  CHARLEBOIS,
                                                                                                                                                         HAMEL,
                                                                                                                                                                                                             Application US/0925208
10. US20030031682A1
    Conservative
                                              \square
                                                                                                                                                          Jose
                                                                                                                                                  Denis
                                                                               Ver
                                             streptococcus
                                                                                                                                                                                            Bernard
           \omega
                                                                                                                                                                  Isabelle
          36.1%;
                                                                                                                                                                                                                                                                793
                                                                               2.0
                                                                                                                                                                                                                                                                                825
                                                                                                                                                                                            .
ਲ
          Score
Pred.
   Mismatches
                                                                                                                                        STREPTOCOCCUS
3769.5; LL
No. 7.1e-261;
                                                                                                                                        ANTIGENS
                  9;
                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PAPGRRKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    715;
 ω
••
Gaps
                                                                                                                                                                                                                                                                                               777
                                                                                                                                                                                                                                                                                                               809
                                                                                                                                                                                                                                                                                                                                               749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     478
                                                                                                                                                                                                                                                                                                                                                                 658
                                                                                                                                                                                                                                                                                                                                                                                 689
                                                                                                                                                                                                                                                                                                                                                                                                                                    538
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      449
                                                                                                                                                                                                                                                                                                                                                                                                  598
                                                                                                                                                                                                                                                                                                                                                                                                                  629
                                                                                                                                                                                                                                                                                                                                                                                                                                                     569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       418
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          298
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238
```

```
멍
                             Д
                QУ
                                          Qy
                                                       Вb
                                                                   Š
                                                                                 B
                                                                                             QΥ
                                                                                                          dd
                                                                                                                       Qy
                                                                                                                                    Дb
                                                                                                                                                 QУ
                                                                                                                                                               Db
                                                                                                                                                                                         Дb
                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                   В
                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                             Вp
                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                              δÃ
               768
   658
                             599
                                          708
                                                       539
                                                                    648
                                                                                479
                                                                                             588
                                                                                                          419
                                                                                                                                                                            408
                                                                                                                                    359
                                                                                                                                                              299
                                                                                                                                                                                                                   179
                                                                                                                                                                                         239
                                                                                                                                                                                                                                288
                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                          228
                                                                                                                                                                                                                                                                                    168
                                                                                                                                                                                                                                                                                                              108
                                                                                                                                                 8
                                                                                                                                                                                                                                                                       61
                                                                                                                                                                                                                                                                                                 ı
                                                      QIIHSAI
QIIHSAI
                                                                                DHIHVVI
DHIHVVI
LPDYGLDRATLEDHINQLAQKANIDPKYLIFQPEGVQFYNKNGELVTYDIKTLQQINP 825
                                   DLSQAEV
                                                                                                                 DLTQIA
                                                                                                                                 RIKAYGI
                                                                                                                                                                                                                                                                                                        MTDPNYI
                                                                                                                                                                                      DLSQAE
                                                                                                                                                                                                  AFGYVVPHGDHYHIIPRSQLSPLEMELADRYLAGQTEDDDSGSDHSKPSDKEVTHTFLGH
                                                                                                                                                                                                               GYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSN
                                                                                                                                                                                                                       GYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSN
                                                                                                                                                                                                                                         DLTQIA
                                                                                                                                                               RIKAYG
                                                                                                                                                                                                                                                                                                 MTDPNY
                          WQQAQELLAKKNAGDATDTDKPKEKQQADKSNENQQPSEASKEEEKESDDFIDS
                                                    EEVQKALAEGRFATPDGYIFDPRDVLAKETFVWKDGSFSIPRADGSSLRTINKS
                                                                             FAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHI
                                                                                                                                                           KGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVA
                                                                                                                                                                                                                                                                                              TRFKQSDVINEILDGYVIKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAK
                                        767
                           657
                                                     598
                                                                                                                                                                         467
                                                                  707
                                                                               538
                                                                                            647
                                                                                                         478
                                                                                                                     587
                                                                                                                                  418
                                                                                                                                               527
                                                                                                                                                             358
                                                                                                                                                                                                   407
                                                                                                                                                                                                                238
                                                                                                                                                                                                                                           178
                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                            167
                                                                                                                                                                                       298
                                                                                                                                                                                                                              347
                                                                                                                                                                                                                                                                                  227
                                                                                                                                                                                                                                                                                               60
                                                                                                                                                                                                                                                       287
```

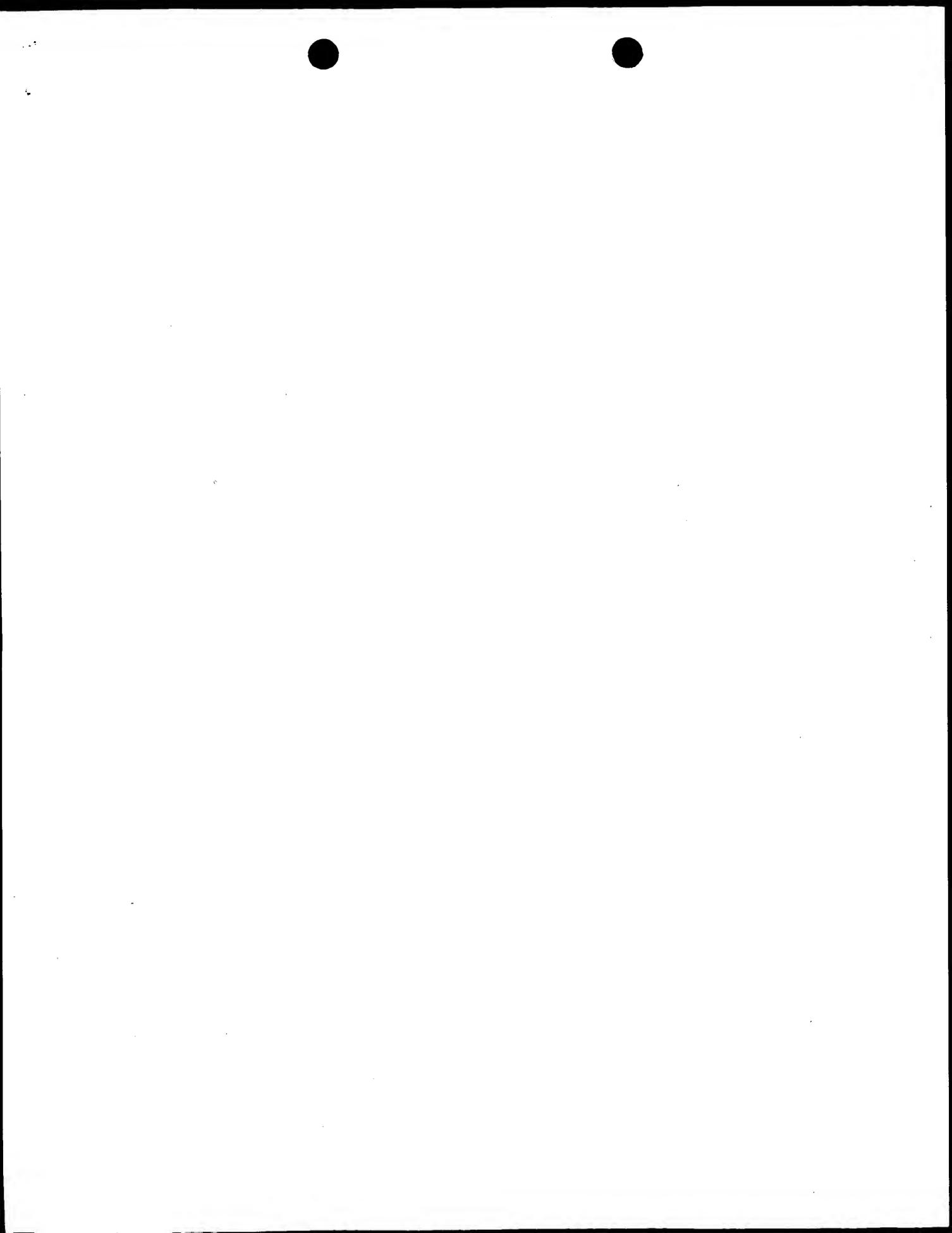
```
WS-09-884-465A-8

Sequence 8, Application US/09884465A

Publication No. US20030077293A1

GENERAL INFORMATION:
APPLICANT: Shire Biochem, Inc.
APPLICANT: Hamel, Josee
APPLICANT: Brodeur, Bernard
APPLICANT: Martin, Denis
APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus Antigens
FILE REFERENCE: 055190-0044

CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
SOFTWARE: Patentin version 3.1
SEQ ID NO 8
LENGTH: 838
TYPE: PRT
ORGANISM: Streptococcus pneumoniae
US-09-884-465A-8
```



```
Number
Number
                                                          Number
                                                                                                                                                                                                      SCORE
STDEV
               The scores be 
Significance
                                                                               Times
                                                                                                     Scores
                                                                                                                                                            Similarity matrix Mismatch penalty
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     <u>o</u> v
                                                                                                                                                                                                                                                                                                                                                                                                         Number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Release
                                                                                                                                                                                                                                                                                                                                                                                                                       Query
                                                                                                                                                                                                                                                                                                                                                                                                                                             Results
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FastDB
 100% identical
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     off s
                                                                                                                               domization group
                                                                                                                                                                                                                                                                                                                                                                       100-
                                                                                                                                                                                                                                                                                                                                                                                                                       sequence
                                                                                                                                                                                                 4.17.95
                                                                                                                                                                                                                                                                                                                                                                                           Results
                                                                                                                                        SCO
                                                                                                                                                                                                                                                                                                                                                                                                                                                         ្ស
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     IntelliGenetics
                                                                                                                                                                                                                                                                                                                                                                                                                                             file
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Fast
                                                          residues:
                                                                                                                                                                                                                                                                                                                                                                                                        scores above
                                                   sequences
                                            scores
                                                                                                                                                                                                                                                                                                                                                                                                                 sequences
                      below
                                                                                                                                                                                                             10
                15
                                                                                                                                                                                                                                                                                                                                                                                                                                           645835x252088.res
                                                                                                                                                                                                                                                                                                                                                                                           of.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pairwise
                calculated
  sequence
                                           searched:
                                                                                                                                                                                                                                                                                                                                                                                                                searched
                                                                       00:00:00.00
                                                                                                                                                            Unitary
1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Comparison
                                                                                                                                             1.00
0.05
                                                                                                                  SEARCH
                                                                                                                                                                               PARAMETERS
                      initial
                                                                                                                                                                                                                                                                                                                                                                                                                                          made by msmith
query
                                                                                                                                                                                                                                                                                                                                                                                                                                                               of
                                                                                                                                                          K-tuple
Joining
                                                                                                                                                    Window
                                                                                                               STATISTICS
                                          1508
2
2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequences
sequence
                      score.
                                                                                                                                                                                                           152
                                                                                                                                                    g penalty
size
                                                                                                                                                                                                                                                                                                                                                                                      US-09-645-835A-7
               score
                                 人名英格兰
                                                                      Total Elapsed 00:00:00:00.00
                                                                                            Standard Deviation 21.21
                                                                                                                                                                                                                                                                                                                                                                                                                                          28
                                                                                                                                                                                                            73
found
                                                                                                                                                                                                                                                                                                                                                                                        ₹(1-816)
                                                                                                                                                                                                                                                                                                                                                                                                                                          103
                                                                                                                                                                                                           94
                             "特别"。"
```

The list

scores

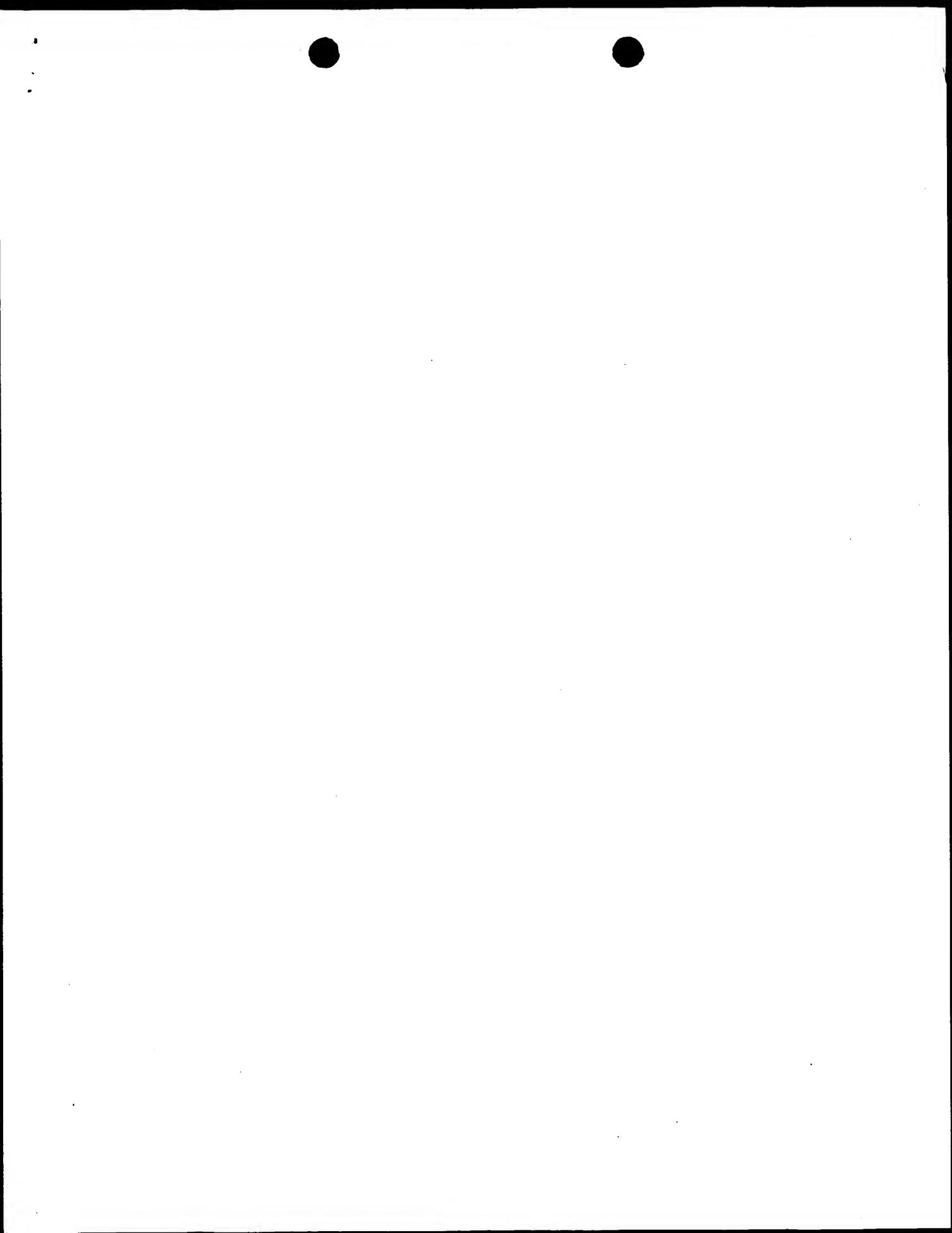
```
Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Initial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence Name
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CURRENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-645-835A-7 (TE816) 783-08-09-252-088B-1 Sequence 15,
                                       IIPRSQLSPLEME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1. US-09-252-088B-1 Sequence 15, Application 2. US-09-252-088B-1 Sequence 16, Application
                                                                          FIPYSOMSELEE
                                                                                                                                                                                                                                                                                                                                                                                                                ¥ 10 ½ 20 x 30 40 50 60 MKINKKYLVGSAAALILSYCSYELGLYQARTYKENNRVSYID-₹-GKQATQKTENLTPDEVSKREGINAEQI
     GYVFEEKGIS-R
                                                                                                             YHPAPPRPNDAS
260 27
                                                                                                                                                             270
                                                                                                                                                                                                                                                                                 150
HADNVRTKEEINRQ -- KQEHSQHREG----
                                                                                                                                               NTNTSNNSNTNSQASQSND-
                                                                                                                                                                                   VPHGNHYHYIPK
190 20
                                                                                                                                                                                                                                                                                                                                      VVKITDQGYVTS
                                                                                                                                                                                                                    VPHGDHYHYIPK
                                                                                                                                                                                                                                                       KRKNIRTKQQIA
120
                                                                                                                                                                                                                                                                                                                                                              VIKITDQGYVTS
                410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      REFERENC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Identity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INVEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patentin
                                                                                                                                                             28
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/09252088B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MARTIN, Denis
ENTION: NOVEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  CHARLEBOIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CATION NUMBER: US/09/252,0888 NG DATE: 1999-02-18 NTION NUMBER: US/60/075,425 DATE: 1998-02-20"

2 ID NOS: 45
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HAMEL, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RODEUR,
                                                                                                                                                                                                                                                                                                              420 430 440 450 460 470
YVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEA--HKAL
                                                                                                                                                                                                     220 230 240 250 260 NELSASELAAAEAFLS---GRG-NLSNSR----TYRR--QNSDNTSRTNWVPSVSNPGTT
                                                  ELA----DRY-
                                                                     350 360 370 380 390 400 RTARIIPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGE
                                                                                                                                                                                KDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPGRRKAPIPDVTPNPGQGHQPDNGG---0 210 220 230 240 250
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 up B streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OUX, Clement
YER, Martine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N: NOVEL GROUP B STREPTOCOCCUS ANTIGENS
8331-9002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   34%
149
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Bernard R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          94
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Isabelle
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.0
                                                                                                                                                                                                                                                                                                                                                                                               MGL----ATKDN-QIAYIDDSKGKAKAPKT-NKTMDQISAEEGISAEQI
X 10 20 30 40
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Conservative Substitutions
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Optimized Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Application US/09252088B
                                   -LAGQTEDNDSGSEHSKPSDKEVTHTFL-GHRIKAYGK
350 360 370 380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             244
295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             793
715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Significance
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Init.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Opt.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             244
193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sig.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 0.71
423
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0.71
-0.71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Frame
```



```
Initial Score
Residue Identity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence
GENERAL I
                                                                                                                                                                                        SOFTWARE: Pa
SEQ ID NO 16
LENGTH: 715
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                          PRIOR APPLICATION NUMBER: US/
PRIOR FILING DATE: 1998-02-20
NUMBER OF SEQ ID NOS: 45
                                                                                                                                                                                                                                                                                                CURRENT APPLICATION NUMBER: US/09/252,088B CURRENT FILING DATE: 1999-02-18
                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE:
                                                                                                                                                                                                                                                                                                                                                   TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                  PLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-645-835A-7
US-09-252-088B-1
                                                                                                                                                       ORGANISM: group
                                                                                                                                                                                                                                                                                                                                                                     PPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QPEGVQFYNKNGELVTYDIKTLQQINP
770 780 790 X
                                 PDEVSKREGINAEQIVIKITDQGYVTSHGDHYHYYNGKVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYV
                                                                                                                                                                                                                                                                                                                                                                                                                       PLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EAEKLLALLK-GSNPSSVSK--EKIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DKPKEKQQADKSNENQQP-SEASKEE---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FKADEEPVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNNL-TLQIMDNNSIMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QIATVKYVMQHPEVRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAE---EVQKALAEGRFATP-
580 590 600 610 620 630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0 600 610 620 630 640
QAYTKEKGILPPSPDADVKANP-TGDSAAAIYNRVKGEKR--IPLVRLPYMVEHTVEV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYSWL---
510 520 530 540 550 560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     660 670 680
DHYHNIKFAWFDDHTYKAPNGYTLEDLFATI--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DGY----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERLG--KPNSQIEY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GLDGKPYDTSDAYVFSK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -LADK--
                                                                                                                                                                                                                                                                                                                                                INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --IFDPRDVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQE-LLAKK-NTGDATDT 650 660 670 680 690 700
                                                                                                                                                                                                                              PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -QA-DELAAAL-DQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAF
450 460 470 480 490 500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09252088B
                                                                                                                                                                                                                                                                                                                                                                                                                 RIOUX, Clement
BOYER, Martine
                                                                                                                                                                                                                                                                                                                                                            MARTIN, Denis
                                                                                                                                                                                                                                                                                                                                                                                                   CHARLEBOIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                        BRODEUR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -YTTSDGYI--FDEHDIIS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         400
                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                N: NOVEL GROUP B
8331-9002
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (1-816)
Sequence
                                                                                                                                                                                                                                                                                                                                                                                  Josee
                                                                                                                                                         streptococcus
                                                                                                                                                                                                                              Ver.
                                                                                       64
30%
140
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bernard R.
                                                                                                                                                                                                                                                                     1999-02-18
3ER: US/60/075,425
                                                                                                                                                                                                                                                                                                                                                                                                   Isabelle
                                                                                     Conservative Substitutions
                                                                                                                      Optimized
                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           16,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ESIHSVDKS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -KESDDFIDSLPDYGL-DRAT--LEDHINQLAQKANIDPKYLIF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Application US/09252088B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               730
                                                                                                                       Score
                                                                                                                                                                                                                                                                                                                                                   STREPTOCOCCUS ANTIGENS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --KYYVEHPDERPHSNDGWGNASEHVLGKKDHSEDPNKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    760
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        560 570 580
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GVTAKHGDHFHYIGFGELEQYELDEVANWVKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 740
                                                                                                    193
240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     420
                                                                                                      Significance
Mismatches
MTDPNYRFKQSDVINEILDGYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -- KNGNLIIPHK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -TEDEVRIA-
                                                                                  -0.71
403
0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440
```

```
530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EQYELDEVANWVKA----KG-----QA-DELAAAL-DQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKD
350 360 370 380 390 400 410
QLAQKANIDPKYLIFQPEGVQFYNKNGELVTYDIKTLQQINP
680 690 700 710 X
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          710 720 730 740 750 760 770
HVLGKKDHSEDPNKNFKADEEPVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            THTFL-GHRIKAYGKGLDGKPYDTSDAYYFSK------ESIHSYDKS---GVTAKHGDHFHYIGFGEL
                                                     0 790 800 810 X
NL-TLQIMDNNSIMAEAEKLLALLK-GSNPSSVSK--EKIN
                                                                                                                                                                                                                                      VOKALAEGREATP
550
                                                                                                                                                                                                                                                                                                                                                                                                               WIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANP-TGDSAAAIYNRVKGEKR--IPLVRLPYMVEHTVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                470 480 490 500 510 520
KAYNLLTEA--HKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERLG--KPNSQIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SNSSLVSQLVRKVGEGYVFEEKGIS-RYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -LLAKK-NTGDATDTDKPKEKQQADKSNENQOP-SEASKEE---KESDDFIDSLPDYGL-DRAT--LEDHIN 620 630 640 650 660 670
                                                                                                                                                                                                                                                                                                                                                                             --TMSYGVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIH
420 430 440 450 460 470 480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PNPGQGHQPDNGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SRTNWVPSVSNPGTTNTNTSNNSNTNSQASQSND--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYI
30 40 50 60 70 80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IKVDGKYYVYLKDAAHADNVRTKEEINRQ--KQEHSQHREG--
                                                                                                                                                                                                                                                                                       650 660 670 680 690 700 680 --KNGNLIIPHKDHYHNIKFAWFDDHYKAPNGYTLEDLFATI----KYYVEHPDERPHSNDGWGNASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -TEDEVRIA---Q---LADK----YTTSDGYI--FDEHDIIS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                        490
                                                                                                                                                                                                                                                                                                                                                       -TRDQIATVKYVMQHPEVRPDVWSKPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAE---
90 500 510 520 530 540
                                                                                                                                                                                                                                    560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       180 190 200 210 270 210
                                                                                                                                                                                                                                                                                                                                                                                                                                     590
                                                                                                                                                                                                                                                        --DGY---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                 -IFDPRDVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQE
570 580 590 600 610
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         270
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --LAGQTEDNDSGSEHSKPSDKEV
270 280 290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -- DEGDAYVTPHMGHSH
                                                                                                                                                                                                                                                                                                                                                                                                                                630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         10
                                                                                                                                                                                                                                                                                                                                                                                                                                   640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           20
```



Š K

```
Title:
Perfect s
Sequence:
                                                                                                                                                                                                                     Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Scoring table:
                                                                                                                                                                                                            NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
        on
::
                                                                                                                                                                                                                                                            score
and is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     number
                                                                                                                                                                                                                                                                                red.
      4166.5

3769.5

1033.5

1033.5

1032

949

920

864

839

451

406.5

390.5

359.5

341

340

327

326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    score:
                                                                                                                                                                                                           Scor
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      seq length:
seq length:
                                                                                                                                                                                                                                                                     No. is t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-645-835A-2
4376
1 VKKTYGYIGSVAAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     hits
                                                                                                                                                                                                                                                            ived
                                                                                                                                                                                                                                                                                                   10:
11:
12:
13:
                                                                                                                                                                                                           Match
                                                                                                                                                                                                                    Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362588 seqs,
      Maximum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Minimum Match
                                                                                                                                                                                                                                                                                                                                                                                                                                           Published_
                                                                                                                                                                                                                                                                                            published_Applications_AA:*

/cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

/cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

/cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

/cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

/cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VKKTYGYIGSVAAILLATHI..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Copyright
       1458822933270
                                                                                                                                                                                                                                                                               the number
                                                                                                                                                                                                                                              uan or equal to the s
                                                                                                                                                                                                                                                                     than
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   19,
                                                                                                                                      7661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  satisfying chosen parameters:
                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      0
20000000000
     793
715
838
840
763
796
1039
1039
1238
1365
1378
1378
1378
1152
1152
1126
999
1139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   2003,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match
first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GenCore
(c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gapext 0
                                                                                                                                                                                                            DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      using sw model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96450795 residue
      07:51:03 ;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                100%
45 s
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    08
  US-09-252-088-15
US-09-252-088-15
US-09-884-465A-8
US-09-884-465A-7
OUS-09-765-272-66
OUS-09-884-465A-6
US-09-884-465A-10
OUS-09-884-465A-381
US-09-884-465A-379
US-09-884-465A-383
US-09-884-465A-383
US-09-884-465A-383
US-09-884-465A-383
                                                                                                                                                                                                          Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              summaries
                                                                                                                                                                                                                                                           the total
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    version
- 2003
                                                                                                                                                                                                                                                       predicted by chance to have score of the result being otal score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Search time 237.022 S (without alignments 335.715 Million cel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.1.4_p5_
Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .YNKNGELVTYDIKTLQQINP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   362588
Sequence 15, Appl Sequence 8, Appli Sequence 8, Appli Sequence 7, Appli Sequence 66, Appli Sequence 66, Appli Sequence 10, Appl Sequence 10, Appl Sequence 381, App Sequence 378, App Sequence 377, App Sequence 379, App Sequence 379, App Sequence 376, App Sequence 383, App Sequence 380, App Sequence 380, App Sequence 381, App Sequence 380, App Sequence 380, App Sequence 381, App Sequence 384, Appl Sequence 384, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cell updates/sec
                                                                                                                                                                                                         Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Seconds
                                                                                                                                                                                                                                                                              have
                                                                                                                                                                                                                                                                   printed,
```

45	44	43	42	41	40	39	38	37	36	35	34	33	32	31	30	29	28	27	26	25	24	23	22	21	20
91.	•	91.	91.	91.	91.	91.	19	19	19	2	9	19	00.	00.	00.	٠	01.	20	20	207.5	0	\sim	Ćυ	w	w
•	•	•	٠	٠	•	•	٠	٠	•	•	•		•	•	•	٠			٠	4.7					
0	ω	ω	ω	ω	w	ω	0	0	0	\sim	0	0	w	ω	W	ω	9	0	9	901	4	\circ	\circ	\circ	\circ
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
-09-884-465A-34	-09-884-465A-36	-09-884-465A-35	-09-884-465A-35	-09-884-465A-35	-09-884-465A-35	-09-884-465A-35	-09-884-465A-37	-09-884-465A-36	-09-884-465A-33	-09-884-465A-36	-09-884-465A-34	-09-884-465A-33	-09-884-465A-36	-09-884-465A-36	-09-884-465A-35	-09-884-465A-35	-09-884-465A-34	-09-884-465A-33	-09-884-465A-33	US-09-884-465A-343	-09-884-465A-12	-09-884-465A-37	-09-884-465A-33	-09-884-465A-33	9-884-465A-37
equence 345,	quence 360,	uence 359,	uence 358,	uence 357,	ence 352,	ce 351,	equence 373,	equence 369,	ence 333,	uence 367,	uence 341,	uence 339,	uence 362,	uence 361,	uence 354,	equence 350,	uence 347,	uence 335,	uence 337,	uence 343,	uence 12, A	quence 372,	uence 33	equence	7
App	g'	g ;	dd	dd.	g	dd.	g Q	Ö,	Ö,	g'	g'	g;	g;	g;	<u>а</u> ;	<u>a</u> .	og.	App	g'g	g,	σ,	ο,	ט'	g;	da

ALIGNMENTS

RESULT 1 US-09-25;

```
US-09-252-088-15

(Sequence 15, Application US/09252088)

Publication No. US20030031682A1

(GENERAL INFORMATION:

APPLICANT: BRODEUR, Bernard R.

APPLICANT: RIOUX, Clment

APPLICANT: CHARLEBOIS, Isabelle

APPLICANT: MARTIN, Denis

TITLE OF INVENTION: NOVEL GROUP B STREPTOCOCCUS ANT

FILE REFERENCE: 8331-9002

CURRENT APPLICATION NUMBER: US/09/252,088

CURRENT FILING DATE: 1999-02-18

EARLIER APPLICATION NUMBER: US/60/075,425

EARLIER APPLICATION NUMBER: US/60/075,425

EARLIER FILING DATE: 1998-02-20

NUMBER OF SEQ ID NOS: 44

SOFTWARE: PatentIn Ver. 2.0

SEQ ID NO 15

LENGTH: 793

TYPE: PRT

GORGANISM: group B streptococcus

US-09-252-088-15
                                  DЪ
                                                              Qy
                                                                                                                          QУ
                                                                                                                                                        DЬ
     γQ
                                                                                             Дb
                                                                                                                                                                                      QУ
                                                                                                                                                                                                                  Query Match
Best Local Simi
Matches 787;
                                  121
                                                               150
                                                                                             61
                                                                                                                           90
                                                                                                                                                                                       30
DLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPAPGRRKA
                                                                                       MGSATKDNQIAYIDDSKGKAKAPKTNKTMDQISAEEGISAEQIVVKITDQGYVTSHGDHY 89
                                  RTKQQIA
                                                             RTKQQIA
                            EQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFSPTDIID
                                                                                                                                                                                                                    Conservative
                                                                                                                                                                                                                                    larity
                                                                                                                                                                                                                                95.2%;
98.9%;
                                                                                                                                                                                                                 Score 4166.5; DB 9; Pred. No. 3.7e-289; Mismatches 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ANTIGENS
                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                               Length 793;
                                                                                                                                                                                                                   ω
••
                                                                                                                                                                                                                Gaps
                                                                                          120
                                                                                                                     149
 269
                               180
                                                             209
```

```
RESULT 2
US-09-252-088-16
; Sequence 16, Applicat;
; Publication No. US200;
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                       20
                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                             Sn,
                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                             Вp
                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                          В
                                                                                    APPLICANT: HAMEL, Jose
APPLICANT: MARTIN, Denis
TITLE OF INVENTION: NOVEL GROUP B
FILE REFERENCE: 8331-9002
CURRENT APPLICATION NUMBER: US/09
CURRENT FILING DATE: 1999-02-18
EARLIER APPLICATION NUMBER: US/60
  Query Mu.
Best Loc
Matches
                                                           SEQ
                             ORGANISM: group -09-252-088-16
                                                                                EARLIER
EARLIER
                                                                 SOFTWARE:
                                                                                                                                                 APPLICANT:
                                                                          NUMBER OF
                                                                                                                                         APPLICANT:
                                                                                                                                                        APPLICANT:
                                                                                                                                                                APPLICANT: BRODEUR,
                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          181
                                                           ID NO 16
                                                                                                                                                                                                                                                                                                 690
                                                                                                                                                                                                                                                                                                                                             539
                                                                                                                                                                                                                                         810
               Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT
                                                                                                                                                                                                                         GELVTYDIKTLQQINP 825
|||||||||||||| 793
GELVTYDIKTLQQINP 793
                                                                                                                                                                                                                                                                                                              FHYIGFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDGKV
                                                                                                                                                                                                                                                      FILING
710;
                                                   715
                                                                                                                                         RIOUX, Clment
BOYER, Martine
CHARLEBOIS, Isa
                                                                 PatentIn
       Similarity
                                                                         LING DATE: 1998-02-
SEQ ID NOS: 44
                                                                                                                                                                             Application US/09252088
No. US20030031682A1
Conservative
                                      Ø
                                                                   Ver
                                     streptococcus
                                                                                                                                                                Bernard R.
        86.1%;
98.9%;
                                                                                                                                           Isabelle
                                                                                        US/60/075,425
                                                                                                      US/09/252,088
                                                                                 20
               Score
        Pred.
                                                                                                                     Ш
                                                                                                                     STREPTOCOCCUS
 Mismatches
        3769.5;
No. 7.1
        le-
        DB 9
-261;
                                                                                                                     ANTIGENS
               9;
               Length
                715;
 Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                  449
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              298
                                                                                                                                                                                                                                                                      809
                                                                                                                                                                                                                                                                                                                                                                                         569
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           238
                                                                                                                                                                                                                                                                                                                658
                                                                                                                                                                                                                                                                                                                               689
                                                                                                                                                                                                                                                                                                                                              598
                                                                                                                                                                                                                                                                                                                                                            629
                                                                                                                                                                                                                                                                                                                                                                                                                      509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 358
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                389
                                                                                                                                                                                                                                                                                                  749
  2;
```

```
Qy
                                                                                                                                                                Дb
                                                                                                                                                                         QУ
                                                                                                                                                                                                    B
                                                             QY
                                                                               Qy
                                                                                        Дb
                                                                                                 QУ
                                                                                                          Дb
                                                                                                                   Qy
                                                                                                                             DЬ
                                                                                                                                               Дb
                                                                                                                                                       Qy
                                                                                                                                                                                  DЪ
                                                                                                                                                                                                             QΥ
        80
                  DЬ
                          QΥ
                                    g
                                            γ
                                                     Вþ
                                                                       Db
                                                                                                                                     Qy
                                                                                                                   408
                                                                                                                                               179
                                                                                                                                                                                                             108
                          708
                                                     479
                                                                      419
                                                                                528
                                                                                                  468
                                                                                                          299
                                                                                                                                      348
                                                                                                                                                       288
                                                                                                                                                                 121
                                                                                                                                                                         228
                                                                                                                                                                                           168
        768
                  599
                                    539
                                                              588
                                                                                         359
                                                                                                                             239
                                                                                                                                                                                  61
                                   SHIID
                                                                                                                                                   GYHPAI
    LPDYGI
                          DLSQA
                                                                                                                   RIKAY
                                                                                                                            DLTQIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHI
                                                                                                                                                                                                    MIDPN
                                                                                                                                                                                                             MTDPN
                                                                                                           RIKAY
                                                                                                                                               GYHPA
                                                                                                                                                                 KKDLS
                                                                                                                                                                         KKDLS
LPDYG
                                                                                         NWVKA
                                                                                                 NWVKA
                  DLSQA
                                   AEEVQKALAEGRFATPDGYIFDPRDVLAKETFVWKDGSFSIPRADGSSLRTINKS
                                                                                        EWQQAQELLAKKNAGDATDTDKPKEKQQADKSNENQQPSEASKEEEKESDDFIDS 767
                                                                                                          GKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVA
                                                                                                                                                                 178
                                                                                                                                                                                   120
                                                                                                                                                                                                              167
                                                                                                                                                        347
                                    598
                                             707
                                                      538
                                                              647
                                                                       478
                                                                                587
                                                                                         418
                                                                                                  527
                                                                                                            358
                                                                                                                    467
                                                                                                                                               238
                                                                                                                                                                          287
                                                                                                                                                                                            227
                                                                                                                                                                                                     60
```

```
; TYPE: PRT
; ORGANISM: St
US-09-884-465A-8
                                                                                                                                                                                                                                                                                                               _{\rm SU}
                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                          APPLICANT: Charland, Nathalie;
APPLICANT: Ouellet, Catherine;
TITLE OF INVENTION: Streptococcus Antigens;
FILE REFERENCE: 055190-0044;
CURRENT APPLICATION NUMBER: US/09/884,465A;
CURRENT FILING DATE: 2001-06-20;
PRIOR APPLICATION NUMBER: 60/212,683;
PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                              Sequence 8, Publication
                                                                                                                                                                                                                                                       GENERAL INFOR APPLICANT: S
                                                                                                                                                                                                                                                                                       SULT 3
-09-884-465A-8
                                                      SOFTWARE:
                                                                                                                                                                                                              APPLICANT:
                                                                                  PRIOR FILING NUMBER OF SE
                                                                                                                                                                                                                                          APPLICANT:
                                           LENGTH:
                                           838
                                                                      Pa
                                                                                    SEQ
                                                                                                                                                                                                                                                                                  Application US/09884465A No. US20030077293A1
                                                                                                                                                                                                                                                         hire
  treptococcus
8
                                                                                                                                                                                                              Brodeur, Bernard
Martin, Denis
                                                                                                                                                                                                                                         Hamel, Josee
                                                                                                                                                                                                                                                                       MATION
                                                                      tentIn
                                                                                  NATE: 2000-06-20
ID NOS: 384
                                                                                                                                                                                                                                                       Biochem, Inc
               pneumonia
```

```
RESULT
US-09-
                                                                                                                                               δÃ
                                                                                                                                                                     В
                                                                                                                                                                                      δõ
                                                                                                                                                                                                           8
                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                              밁
                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δõ
                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                           B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ъ
                                               JS-09-884-465A-7

Sequence 7, Applicati
Publication No. US200
GENERAL INFORMATION:
APPLICANT: Shire Bio
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Ma
Best Loc
Matches
 APPLICANT:
APPLICANT:
APPLICANT:
                             APPLICANT:
                                                                                                                                                                     573
                                                                                                                               626
                                                                                                                                                770
                                                                                                                                                                                                          520
                                                                                                                                                                                                                             651
                                                                                                                                                                                                                                                 493
                                                                                                                                                                                                                                                                                       457
                                                                                                                                                                                                                                                                                                            531
                                                                                                                                                                                                                                                                                                                              409
                                                                                                                                                                                                                                                                                                                                                                     371
                                                                                                                                                                                                                                                                                                                                                                                                                              355
                                                                                                                                                                                                                                                                                                                                                                                                           314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       227
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     / Match
Local Similarity 35.6%; Pr
les 279; Conservative 101;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     \vdash
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 w
                                                                                                                             -YNL
                                                                                                                                                DYGL
                                                                                                                                                                                  QAEWQQAQELLAKKNAGDATDTDKPKEKQQADKSNENQQPSEASKEEEKESDDF-IDSLP
                                                                                                                                                                                                        YTDDEIQVAKLAGKYTTEDGYIFDPRDITSDE
                                                                                                                                                                                                                 HVVPYSWLTRDQIATIKYVMQHPEVRPDIWSKPGHEESGSVIPNVTPLDKRAGMPNWQII
                                                                                                                                                                                                                                                                                                                                                                                                      EAERAAAQAYAKEKGL-
                                                                                                                                                                                                                                                                                     -LARIHODLLDNKGRQVDFEVLDNLLE-RLK-DVSS-
                                                                                                                                                                                                                                                                                                                            PAKDLSAETAAGIDSKLAKQESL--SHKLGAKKTD-
                                                                                                                                                                                                                                                                                                                                             KAKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLT
                                                                                                                                                                                                                                                                                                        QIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHI
                                                                                                                                                                                                                                                                                                                                                                    PNPQPAPSNPIDEK --
                                                                                                                                                                                                                                                                                                                                                                                    AYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWV
                                                                                                                                                                                                                                                                                                                                                                                                                                                      RPNDASQNKHQRDEFKGKTFKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAFGYVVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IVNEIKGGYVIKVDGKYYVYLKDAAHADNIRTKEEIKRQKQEHSHN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QAYWSQKQG-RGARPSDYRPTPAPAPGRRKAPIPDVTPNPGQGHQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VINEILDGYVIKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EAYWNGKQGSRPSSSSYNANP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hamel, Josephanel, Josephanel, Bernal
                                                                  Application US/09884465A No. US20030077293A1
                                              Shire Biochem,
                                                                                                                              628
                                                                                                                                                773
Martin, Denis
Charland, Nathalie
Ouellet, Catherine
                                                                                                                                                                                                                                                DDILAFLAPIRHPE-
                                                                                                                                                                                                                                                                                                                                                                                                                                             --QGENISSLLRELYAKPLSERHVESDGLIFDPAQITSRTARGVAVP
                             Bernard
                                                                                                                                                                                                                                                                                                                                                                    -LVKEAVRKV
                                                                                                                                                                  -TPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ore 1054.5; DB 9;
ed. No. 6.5e-67;
Mismatches 235;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VQPRLSENHNLTVTPT-
                                                                                                                                                                                                                                                                                                                                                                    GDGY
                                                                                                                                                                                                       GDAYVTPHMTHS
                                                                                                                                                                                                                                                                                                                           -LPSSDREFY--NKAYDL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                 -VFEENGVSRYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PDNGGYHPAPP
                                                                                                                                                                                                       --HWIKKDSLS
                                                                                                                                                                                                                                              RLGKPNAQIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  HNSR
                                                                                                                                                                                                                                                                                     DKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                  625
                                                                                                                                                                                    769
                                                                                                                                                                                                       572
                                                                                                                                                                                                                          710
                                                                                                                                                                                                                                              519
                                                                                                                                                                                                                                                                 650
                                                                                                                                                                                                                                                                                     492
                                                                                                                                                                                                                                                                                                        590
                                                                                                                                                                                                                                                                                                                           456
                                                                                                                                                                                                                                                                                                                                                                 408
                                                                                                                                                                                                                                                                                                                                                                                                        370
                                                                                                                                                                                                                                                                                                                                                                                                                          410
                                                                                                                                                                                                                                                                                                                                                                                                                                              313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              239
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     31;
```

```
VО
                                             DЬ
                                                                 QУ
                                                                                        Db
                                                                                                            QУ
                                                                                                                                                                                                                                                                                         Qу
                                                                                                                                   d
                                                                                                                                                        Qy
                                                                                                                                                                              Db
                                                                                                                                                                                                  QУ
   DЬ
                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                 qa
                                                                                                                                                                                                                                                                                                                                     ΩV
                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local Simi
Matches 292;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Streptococcus Antigens FILE REFERENCE: 055190-0044 CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 84
TYPE: PRT
ORGANISM:
   641
                                            588
                                                                                        535
                                                                                                                                   508
                                                                                                                                                         592
                                                                                                                                                                              471
                                                                                                                                                                                                    532
                                                                                                                                                                                                                         424
                                                                                                                                                                                                                                               472
                                                                                                                                                                                                                                                                     386
                                                                                                                                                                                                                                                                                           412
                                                                                                                                                                                                                                                                                                                 329
                                                                                                                                                                                                                                                                                                                                      356
                                                                                                                                                                                                                                                                                                                                                                                                                                                   169
                                                                                                                                                                                                                                                                                                                                                            275
                                                                                                                                                                                                                                                                                                                                                                                  296
                                                                                                                                                                                                                                                                                                                                                                                                       229
                                                                                                                                                                                                                                                                                                                                                                                                                             240
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          57
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                60
                                                                                  LV-
                                                                                                                                                    VVPYSWLTRDQIATIKYVMQHPEVRPDIWSKPGHEESGSVIPNVTPLDKRAGMPNWQIIH
                                                                                                                                                                                                                                                                                                                GNHYHF1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ::|||
IVNEIKO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VINEILI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EVSKREC
                                                               AEWQQAQELLAKKNAGDATDTDKPKEKQQADKSNENQQPSEASKEEEKESDDF-IDSLP-
                                                                                                                                                                                                                       AKNLSAETAAGIDSKLAKQESL--SHKLGAKKTD--
                                                                                                                                                                                                                                                                                                                                                                   PNDASQNKHQRDEFKGKTFKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAFGYVVPH
 NLQYTVEVKNGSLIIPHYDHYHNIKFEWFDEGLYEAPKGYTLEDLLATV
                                                                                                                                                                                                                                                                                          YGKGLDO
                                                                                                                                                                                                                                                                                                                                   GDHYHIIPRSQLSPLEMELAD----RYLAGQTEDDDSGSDHSKPSDKEVTHTFLGHRIKA 411
                                                                                                                                                                                                                                                                                                                                                                                                                QAYWSQKQG----RGARPSDYRPTPAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPR
                                            AERAAAQAYAKEKGL-
                                                                                                                                                                            LARIHODLLDNKGROVDFEALDNLLE-RLK-DVSS--
                                                                                                                                                                                                                                           AKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQ
                                                                                                                                                                                                                                                                    NPQPAPSNPIDEK - - - - LVKEAVRKV -
                                                                                                                                                                                                                                                                                                                                                                                                    IAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIH
                                                                                                                                                                                                                                                                                                                                                            SNTNSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QISAEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VKKTYG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INKKY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ
Pate
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             St.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3KPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVK 471
                                                                                                                                                                                                                                                                                                             IPYEQMSELEKRIARIIPLRYRSNHWVPD---SRPEEPSPQPTPEPSPSPQPAP
                                                                                                                                                                                                                                                                                                                                                       ASQSND-----IDSLLKQLYKLPLSQRHVESDGLIFDPAQITSRTARGVAVPH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DGYVIKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSK 179
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YIGSVAAILLATHIGSYQLGKHHMGSATKDNQIAYIDDSKGKAKAPKT-NKTMD 59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  entIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ilarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      reptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              23.6%;
llarity 33.5%;
Conservative 11:
                                                                                                                                  --DDILAFLAPIRHPE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               112;
                                          - TPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMPY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 1033.5; DB 9;
Pred. No. 2.1e-65;
2; Mismatches 259;
                    -DYGLDRA----TLEDHINQLAQKANIDPKYL 796
                                                                                                                                                                                                                                                                    -GDGY-
                                                                                                                                                                                                                        ---LPSSDREFY--NKAYDL--
                                                                                                                                                                                                                                                                  ---VFEENGVSRYIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 840;
                                                                                                                                 RLGKPNAQITY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              209;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---TS
                                                                                                                                                                           -DKVK
                                                                                                                                                                                                                                                                                                                                                                                                      N- - - N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                                      651
692
                                          640
                                                               769
                                                                                     587
                                                                                                                                 534
                                                                                                                                                                                                 591
                                                                                                                                                                                                                                            531
                                                                                                                                                                                                                                                                  423
                                                                                                                                                                                                                                                                                                             385
                                                                                                                                                                                                                                                                                                                                                          328
                                                                                                                                                                                                                                                                                                                                                                                                     274
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      239
                                                                                                                                                                                                                                                                                                                                                                               355
                                                                                                                                                                                                                                                                                                                                                                                                                          295
                                                                                                          711
                                                                                                                                                                           507
                                                                                                                                                                                                                      470
                                                                                                                                                                                                                                                                                                                                                                                                                                                228
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           168
```

γΩ

-dÖJI

```
Вр
                                                                                                                                                                                                                δô
                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 5
US-09-765-272-66
                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                    US-09-765-272-66
                                                                                        δõ
                                                                                                                       B
                                                                                                                                                  Ş
B
                           δÃ
                                                           g
                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 285
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 66, Application US/09765272 Patent No. US20020061545A1 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION FOR SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              693
                                                                                          201
                                                                                                                        120
                                                                                                                                                      141
                                                                                                                                                                                                                  81
                                                                                                                                                                                    60
                                                                                                                                                                                                                                                N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/765,27
FILING DATE: 22-Jan-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 20850
COMPUTER READABLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CLASSIFICATION: <Unknown>
PRIOR APPLICATION DATA:
APPLICATION NUMBER: 08/961,083
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CORRESPONDENCE ADDRESS
ADDRESSEE: Human (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                   MOLECULE
                                                                                                                                                                                                                                                                                                                                                                                                                                                            MATION FOR SEQ ID NO: 6
SEQUENCE CHARACTERISTIC:
LENGTH: 763 amino
                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VEHPNERPHSDNGFGNASDHVQ-RNKNGQADT
                                                                                                                                                                                 7
                                                                                                                                                  KPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGY
                                                                                                                                                                                                                                              SYELGRHQAGQVKKESNRVSYIDGDQAGQKA--ENLTPDEVSKREGINAEQXVIKITDQG
                                                                                                                                                                                                                                                               SYQLGKHHMGSATKD-NQIAYIDDSKGKAKAPKTNKTMDQISAEEGISAEQIVVKITDQG
                                                                                                                                                                                                                                                                                                       al Similarity
285; Consort
                             APAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQ
                                                                                       IFSPTDIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTP
                                                                                                                       KDAAHADNIRTKEEIKRQ-----KQERSHN-----HNSRAD-NAVAAARAQGRYTTDDGY
                                                           IFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEAYWNGKQ--GSRPSSSSSYN
                                                                                                                                                                                                                                                                                                                                                                                                  TOPOLOGY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MEDIUM TYPE: Diskette,
COMPUTER: HP Vectra 486
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OPERATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STATE: Maryland COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                               STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Brookes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE: ASCII Text
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CITY: Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Human
STREET: 9410 Key
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ဝှု
                                                                                                                                                                                                                                                                                                      23.6%; Score 1032; larity 33.6%; Pred. No. 2 Conservative 101; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       r: Choi et. al.
INVENTION: Streptococcus
f SEQUENCES: 452
                                                                          PE: Diskette, 3.50 inch, 1
HP Vectra 486/33
SYSTEM: MSDOS version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                     protein
                                                                                                                                                                                                                                                                                                                                                                                                                  linear
NPAQPRLSENHNLTVTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -EGVQFYNKNGELVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              West
                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID NO: 66:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genome Sciences,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Avenue
                                                                                                                                                                                                                                                                                                          ed. No. 2.30 Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       pneumoniae
                                                                                                                                                                                                                                                                                                          2; DB 10;
2.3e-65;
thes 249;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    4Mb
 -TYHQN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Antigens
                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                         Length
 -QGENISSLLRE
                                                                                                                                                                                                                                                                                                                                         763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and Vaccines
                                                                                                                                                                                                                                                                                                            212;
                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                    140
                                                                                                                                                        200
                                                                                                                                                                                       119
                                                                                                                                                                                                                                                 59
                                320
                                                                                            260
                                                                                                                         168
   260
                                                             226
                                                                                                                                                                                                                                                                                                             32;
```

```
QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                         У
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                     US-09-765-272-56; Sequence 56, Application; Patent No. US200200615; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       437
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               677
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      491
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  557
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          321
                                                                                                                                                                                                                                                                                                                                                                                                                                 684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            737
                                                                                                                                                                                                                                                                                                                                                                                            5
                                                                                                                                                                                                                                                                                      APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococcus pneumoniae
OF SEOUENCES: 452
                                                                                                                                                                               COMPUTER READABLE MEDIUM TYPE:
                                                                                                                                 CURRENT
                                                                                                                                                                                                                                                                         CORRESPONDENCE ADDRESS:
ADDRESSEE: Human G
                                      ATTORNEY/AGENT INFORMATION:
                                                                             PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KNGQADT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEWFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        E-RLK-DVXS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VDKSGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RYRSNHWVPD---SRPEQPSPQSTPEPSPSPQPAPNPQPAPSNPIDEK----LVKEAVRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                          KNGELVT 814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EKQQADKSNENQQPSEASKEEEKESDDF-IDSLP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DITSDE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDTDKPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PDIWS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EPRLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HKLGAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RYLAGQTEDDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STDHQ
                                                                                                                                                                                                                                                                                                                                                  0, Application US/09765272
US20020061545A1
                                                                                                                                                                                                                     STREET: 9410
CITY: Rockvil
STATE: Maryla
COUNTRY: USA
                                                                           APPLICATION NUMBER: US/09/765,272 FILING DATE: 22-Jan-2001 CLASSIFICATION: <Unknown> APPLICATION DATA:
                                                    APPLICATION NUMBER: FILING DAME
                                                                                                                                          OPERATING SYSTEM: MSDOS version 6 SOFTWARE: ASCII Text
REGISTRATION NUM REFERENCE/DOCKET
                        NAME: Brookes,
                                                                                                                                                                                                          IP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EGLYEAPKGYTLEDLLATV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VTAKHGDHFHYIGFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPLFDT
                                                                                                                                                                      OMPUTER:
                                                                                                                                                                                                                                   ITY: Rockville
TATE: Maryland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YGLDRA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYSWLTRDQIATIKYVMQHPEVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KTD-
                                                 ILING DATE:
                                                                                                                                 APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                  690
                                                                                                                                                                                                         20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -GDGY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GDAYVTPHMTHS--HWIKKDSLSEAERAAAQAYAKEKGL--
                                                                                                                                                                                                                                                             9410 Key West Avenue
                                                                                                                                                                     PE: Diskette, 3.50 inch, HP Vectra 486/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLEDHINQLAQKANIDPKYLIFQP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -LPSSDREFY--NKAYDL--LARIHQDLLDNKGRQVDFEALDNLL
 NUMBER: 36,373
                                                    <Unknown>
                                                                                                                                                                                               FORM:
                          A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --VFEENGVSRYIPAKDLSAETAAGIDSKLAKQESL--
                                                                                                                                                                                                                                                                          Genome Sciences,
                          Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -RLGKPNAQITYTDDEIQVAKLAGKYTTEDGYIFDPR
  PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -DKVKLV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -KYYVEHPNERPHSDNGFGNASDHVQ-RN
                                                                                                                                                           .
N
                                                                                                                                                                                    1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -XDILAFLAPIRHPE--
                                                                                                                                                                                                                                                                                                                 Antigens
                                                                                                                                                                                   storage
                                                                                                                                                                                                                                                                                                                  and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EGVQFYN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --TPP
                                                                                                                                                                                                                                                                                                                 Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          496
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       556
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                413
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              807
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              769
```

```
δÃ
                                                                                                                                                                                                                                                                        멍
                     Ş
                                                                 δõ
                                                                                         밁
                                                                                                             Š
                                                                                                                                    밁
                                                                                                                                                         Ş
                                                                                                                                                                                 멍
                                                                                                                                                                                                     δ
                                                                                                                                                                                                                            B
                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                               д
                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         09-765-272-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION FOR SEQ
                                                                                                                                                           469
                                                                                                                                                                                                                            452
 681
                                                                                                                                    572
                                                                                                                                                                                 512
                                                                                                                                                                                                                                                                        392
                                                                                                                                                                                                                                                                                               392
                                                                                                                                                                                                                                                                                                                     332
                      619
                                             629
                                                                                         619
                                                                                                                                                                                                                                                                                                                                          377
                                                                                                                                                                                                                                                                                                                                                                  272
                                                                                                                                                                                                                                                                                                                                                                                       319
                                                                                                                                                                                                                                                                                                                                                                                                                                                          170
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Local Similarity
mes 277; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY: linear MOLECULE TYPE: protein SEQUENCE DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
MATION FOR SEQ ID NO: 56:
 GW.
                                                                                                                                                         WVKAKG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SYQLGKHHMGSATKDNQIAYIDDSKGKAKAPKT-NKTMDQISAEEGISAEQIVVKITDQG
                                                                                                                                                                             KALFXNKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERLGKPNSQIEYT
                                                                                                                                                                                                                                                                                                                                                            KQLYKLPLSQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEERIARII
                                                                                                                                                                                                                                                                                                                                                                                                            QNSDNTSRTNW-VPSVS-NPGTTNTNTSN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                      SYELGLYQARTVKENNRVSYID---GKQATQKTENLTPDEVSKREGINAEQIVIKITDQG
                                                                                                            PKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGN
                                                                                                                                  YTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLV-
                                                                                                                                                                                                                                                                      KGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEAH
                                                                                                                                                                                                                                                                                                                  PLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFEE
                                                                                                                                                                                                                                                                                                                                                                                      DQLHRLDLKYRHVEEDGLIFEPTQVIKSNAFGYVVPHGDHYHJIPRSQLSPLEMELAD--
                                                                                                                                                                                                                                                                                                                                                                                                                                TPAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KDAAHADNVRTKEEINROKOEHSOH-REGG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGY
                    IWSKPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDV
                                                                  ATYDTGSSFVIPHIDHIHVVPYSWL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQUENCE
                                                                                                                                                                                                                                                                                                                                          RYLAGQTEDD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH: 796 amino acid
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         21.7%;
ilarity 29.5%;
Conservative 10
                                                                                                                                                                                                                                                  GKGLD-
                                         -LIIPHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSND
GNASEHVLGKKDHSEDPNKNFKADEEPVEETPAE-
                                                                                                                                                                                              -YDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVAN
                                                                                                                                                      -QADELAAALDQEQGKEK-PLFDTKKVSRKVTKDGKVGYMM
                                                                                                                                                                                                                                                                                       HSKPSDKE-VTHTFLGHR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ore 949; DB 10; ed. No. 2.1e-59; Mismatches 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NO:
                                                                                        ---EH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   56
                                                                                                                                                                                                                                                                                                                                                                                                            -NSNTNSQASQSND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TPRNDGAVALARSQGRYTTDDG
                                                               TRDQIATIKYVMQHPEVRP-
                                                                                                                                                                                                                                                                                                                                          -DSGSD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                       -TVEVKN--
                                                                                                                                                                                                                                                                                              IKAY-
                                                                                                                                                                                                                                                 -GKP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         348;
                                                                                                                                   RLPYMV
                                                                                      GZ
                                                                 ĥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                  618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      140
                     678
                                                                                      628
                                                                                                            573
                                                                                                                                                                                                     468
                                                                 618
                                                                                                                                                                               571
                                                                                                                                                                                                                          511
                                                                                                                                                                                                                                                                       451
                                                                                                                                                                                                                                                                                                                                                                                                            271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               117
                                            680
                                                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                                                                             412
                                                                                                                                                                                                                                                                                                                   391
                                                                                                                                                                                                                                                                                                                                         391
                                                                                                                                                                                                                                                                                                                                                                331
                                                                                                                                                                                                                                                                                                                                                                                                                                  318
                                                                                                                                                                                                                                                                                                                                                                                                                                                        226
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              258
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         34;
```

```
QΥ
                       QУ
                                               DЬ
                                                                    QУ
                                                                                            Dр
                                                                                                                  QУ
                                                                                                                                         DЬ
                                                                                                                                                               Qy
                                                                                                                                                                                                            ΩУ
                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                Дb
 Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ; TYPE: PRT; ORGANISM: Str
US-09-884-465A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
US-09-884-465A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SOFTWARE: |
SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Publication No. US2
                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TITLE OF INVEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH:
                        469
                                                                      410
                                                                                                                                                                307
                                                                                                                  367
                                                                                                                                         264
                                                                                                                                                                                       231
                                                                                                                                                                                                              247
                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                           187
                                                                                                                                                                                                                                                                                  125
                                                                                                                                                                                                                                                                                                         127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        679
                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                65
                                                                                                                                                                                                                                                                                                                                                      67
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Match
                                                                                                                                                                                                                                 WVKAKGQADELAAALDQEQGKEKPL-FDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQL
                                                                                                                                        GYIIKVDGKYYVYLKDAAHADNVRTKDEINRQKQEHVKD-NEKVNSNVA-
 SLATPSF
                                                         KAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYI-GFGELEQYELDEVAN
                                                                                         GYVIKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVN
                                                                                                                  LSPLEMELADRYL - - - - AGQTEDDDS -
                                                                                                                                                                                                             QGRGARP
                                                                                                                                                                                                                                                                                                                             YIAAGS
                                                                                                                                                                                                                                                                                                                                                                                                  YIGSVAAILLATHIGSYQLGKHHMGSATKDNQIAYIDDSKGKAKAPKTNKTMDQISAEEG
                                                                                                                                                                                                                                                                                                                                                    ISAEQIVVKITDQGYVTSHGDHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEILD 126
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GLRNNL:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKN----AGDATDT--
                                                                                                                                                                                      -GKNMQP
                                                                                                                                                                                                                                                                                                                                                                                                                           al Simi
262;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Hamel, Josee
Brodeur, Bernard
Martin, Denis
Charland, Nathalie
Ouellet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09884465A No. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                           AVIVSLSLCAYALNQHRSQENKDNNRVSYVDGSQSSQKS--ENLTPDQVSQKEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     rellet, Catherine
NTTON: Streptococcus Antigens
E: 055190-0044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FLQIMDNNSIMAEAEKLLALLKGSNPSSVSKEK
SLPINPGTSHEKHEEDGYGFD--
                                                                                                                                                                                                                                                                                                                                                                                                                         21.0%; Score 920; DB 9; 1 larity 26.5%; Pred. No. 3.6e-57; Conservative 158; Mismatches 298;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   eptococcus
                                                                                                                                                                                      SQLSYSSTASDNNTQSVAKGSTSKPAN--
                                                                                                                                                                                                            SDYRPTPAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Biochem, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -DKPKEKQQADK-
                                             SASDGYIFNPKDIVEETATAYIVRHGDHFHYIPKSNQIGQPTLPN--N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -SNENQQPSEASKEE 757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -TEKVEAQLKEAEVLLAKVTDSSLKANATETLA
                                                                                                                                                                                                                                                                                                                                                                                        ::
::
ANRITAEDESGFVMSHGDHNHYFFKKDL
                                                                                                       -GSDHSKPS----DKEVTHTELGHRI
                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1039;
                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                           270;
                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                    468
                                                                                                                                                                                                                                                                                                                                                                            64
                                             417
                       527
                                                                                                                                                                                                                                                                                                        186
473
                                                                                                                  409
                                                                                                                                        320
                                                                                                                                                               366
                                                                                                                                                                                                             306
                                                                                                                                                                                                                                                           246
                                                                                                                                                                                                                                                                                                                               124
                                                                                                                                                                                                                                                                                                                                                                                                    66
                                                                                           371
                                                                                                                                                                                                                                    230
                                                                                                                                                                                      263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       732
```

31.

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                οy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     á
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
               8
                                              Вp
                                                                            γΩ
                                                                                                           Вp
                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 8
US-09-884-465A-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                     US-09-884-465A-10
                                                                                                                                                                                        Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          sequence 10, Appropriation No.
                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                           APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus Antigens FILE REFERENCE: 055190-0044 CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                              NUMBER OF SEQ ID NOS: SOFTWARE: PatentIn ve
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENERAL
                                                                                                                                                                                                                                            TYPE: PRT
ORGANISM: Streptococcus pneumoniae
                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                 ID NO 10
ENGTH: 840
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              528
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     767
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 707
                                                                                                                                                                      Local Sin hes 267;
                42
                                              60
                                                                                                                                                                                                      Match
                                                                                                           2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DLTQIAFAEQELMLKDKKHYRYDI-
                                                                                                                         SYQLGKHHMGSATKDNQIAYIDDSKGKAKAPKTNKTMDQISAEEGISAEQIVVKITDQGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QKANIDPKYLIFQPEG-VQFYNKNGELV 813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 AGNATYDTGSSFVI-PHIDHIHVVPYSWLTRDQIATI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TEEQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPGNAKEMKDLDKKIEEKIAGIMKQYGVK
                                             VTSHGDHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEILDGYVIKVNGNYYVYLK 141
                                                                                                          AYALNQHRSQENKDNNRVSYVDGSQSSQKS--ENLTPDQVSQKEGIQAEQIVIKITDQGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ESYGMKLENVLFNMDGTIELYLPSGEVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NKAQENSKLDEKVEEPKTSEKVEKEKLSETGNSTSNSTLEEVPTVD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KEKQQADKSNENQQPSEASKEEEKE --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PKLNQGTTRTAGNKIPVTFMANAYLDNQSTYIVEVPILEKEN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YKMASQTIFYPFHAGDTYLRVNPQFAVPKGTDALVRVFDEFHGNAYLENNYKVGEIKLPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DGKVLEKVSGKVFGEGVGNIANFELDQPYLPGQTFKYTIASKDYPEVSYDGTFTVPTSLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PGHE-ESGSVIPNVTPLDKRAGMPNWQI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RESIVVNKEKNAIIYPHGDHHHADPI----DEHKPVGIGHSHSNYELFKPE--EGVAKK
              PGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DGYIFD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         EGNKVYTGEELTNVVNLLKNSTFNNQNFTLANGQKRVSFSFPPELEKKLGINMLVKLITP
                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -DGSSLRTINKSDL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/09884465A
                                                                                                                                                                                                                                                                                                                                                                                                                           Charland, Nau...
Charlet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brodeur, Bern
Martin, Denis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Hamel, Josee
                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biochem,
                                                                                                                                                                                                                                                                                                                 version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bernard
                                                                                                                                                                                                                                                                                                                                 384
                                                                                                                                                                                    19.7%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Inc
                                                                                                                                                                        144; Mismatches
                                                                                                                                                                     Score 864; DB 9; 1
Pred. No. 2.6e-53;
4: Mismatches 273;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -PRDVLAKETF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SQAEWQQAQELLAKKNAGDATDTDKP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SDDFIDSLPDYGLDRATLEDHINQLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --IHSAEEVQKALAEG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -VDTGIEPRLAVDVSSLPMH
                                                                                                                                                                                                    Length 840;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -KYVMQHPEVRPDIWSK
                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -VWKDGSFSIPRA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -QTDKPSILPQFKR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --PVQEKVAKFA
256;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -RFATP
                                                                                                                                                                       Gaps
                                                                                                           59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 766
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       668
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              570
                                                119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            696
                                                                                                                                                                         43;
```

```
QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     뫄
                                                                                                                                                                                                                                 RESULT 9
US-09-765-272-182
                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                             ga
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ΩV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                      Sequence 182, Applicat Patent No. US200200615 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 476
                                                                                                                                                                                                                                                                                            796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         510
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             168
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         202
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     120
                                                                                                                                                                                                                                                                                                                                                      738
                                                                                                                                                                                                                                                                                                                                                                                                             679
                                                                                                                                                                                                                                                                                                                                                                                                                                        682
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     624
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      394
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     289
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                260
                                                                                                                            APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococcus
NUMBER OF SEQUENCES: 452
CORRESPONDENCE ADDRESS:
COMPUTER READABLE MEDIUM TYPE: COMPUTER: HP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PSPS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           T--DKPKEKQQADKSNENQQPSEASKEEEKESDDFI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VYTGEELTNVVNLLKNSTFNNQNFTLANGQKRVSFSFPPELEKKLGINMLVKLITPDGKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        YVFSKESIHSVDKSGVTAKHGDHFHY---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QLHRLDLKYRHVEEDGLIFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEMELADRY-
                                                                                                                                                                                                                                                                                             PVQEKLEKFTASYGLGLDS--VIFNMDGTIELRLPSGEVI 833
                                                                                                                                                                                                                                                                                                                        HINQLAQK - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DAAHADNVRTKDEINRQKQEHVKD-NEKVNSNVA-
                                                                                                                                                                                                                                                                                                                                                     TVENQPTENKPADSLPE - - APNEKPVKPENSTDNGMLNPEGNVGSDPMLDSALEEAPAVD
                                                                                                                                                                                                                                                                                                                                                                                                            FAESYGMKLENVLFNMDGTIELYLPSGEVIKK-NMADFTGEAPQGNGENKPSENGKVSTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RNKAQENSKLDEKVEEPK----TSEKVEKEKLSETGNSTSNSTLEEVPTVDPVQEKVAK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KMASQTIFYPFHAGDTYLRVNPQFAVPKGTDALVRVFDEFHGNAYLENNYKVGEIKLPIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RLAVDVSSLPMHAGNATYDTGSSFVIPH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GYMMPKDGKDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IVVNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     EEVKTSHNGLDSLSSHEQDYPSNAKEMKDLDKKIEEKIAG-IMKQYGV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -LEKVSGKVFGEGVGNIANFELDQPYLPGQTF-KYTIASKDYPEVSYDGTFTVPTSLAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --ADELAAALD-
                                                                                                                                                                                                                                                                                                                                                                                                                                        -ETFVWK-
                                                                                                                                                                                                    32, Application US/09765272
US20020061545A1
                                                                    STREET:
CITY: RC
STATE: N
                                                        COUNTRY:
                                                                                    ADDRESSEE: Human Genon
STREET: 9410 Key West
CITY: Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -TPLDKRAGMPNWQIIHSAEEVQK-ALAEGRFATPDGYI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -LPI----NPGTSHE---
                                            20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -- KNATIYPHGDHHHADPIDEHKPVGIGHSHSNYELFKPEEGVAKKEGNK
                                                                       Maryland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -EEDGYGFDANRIIAEDESGFVMSHGDHNHYFFKKDLTEEQIKAAQKHL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -VVPYSWLTR----DQIATIKYVMQHPEVRPDIWSKPGHEESGSVIPNV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -LAGQTEDDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDA
                                                                                                                                                                                                                                                                                                                        -- ANIDPKYLIFQPEG-VQFYNKNGELV 813
                                                          USA
                                                                                                                                                                                                                                                                                                                                                                                                                                        --DGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATD
Diskette, 3.50
Vectra 486/33
                             FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -FYARDQLDLTQIAFAEQELMLKDKKHYRYD---IVDTGIEP
                                                                                                                 Genome Sciences,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -QEQGKEKPLFD----TKKVS----RKVTKDGKV
                                                                                                    Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---IDHIH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---IGFGEL-EQYELDEVANWV-KAKGQ-
               inch,
                                                                                                                                                            pneumoniae Antigens
                1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---KH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---VARSQGRYTTNDGYV
               storage
                                                                                                                                                                                                                                                                                                                                                                                 -DSLPDYGLDRATLED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -FDP-RDVLAK
                                                                                                                                                             and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --KRES
                                                                                                                                                            Vaccines
                                                                                                                                                                                                                                                                                                                                                                                 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          558
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          475
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  426
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             288
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                319
                                                                                                                                                                                                                                                                                                                                                                                                                                         731
                                                                                                                                                                                                                                                                                                                                                                                                             737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     240
```

```
RESULT 10
US-09-884-465A-381
; Sequence 381, Applica
; Publication No. US200
; GENERAL INFORMATION:
                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                       Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query
                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MOLECULE TYPE: protei
SEQUENCE DESCRIPTION:
09-765-272-182
           APPLICANT:
                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEPHONE: (301) 30
TELEFAX: (301) 309-
INFORMATION FOR SEQ ID NO: 18
                                                                                                                                                 354
                                                                                                                                                                        428
                                                                                                                                                                                                314
                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                255
                                                                                                                                                                                                                                                                        325
                                                                                                                                                                                                                                                                                                                        265
                                                                                                                                                                                                                                                                                                                                                167
                                                                                                                                                                                                                                                                                                                                                                                                119
                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                        205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        85
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OPERATING SYSTEM: MS
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                            VFSKESIHSVDKSGVTAKHGDHFHYI
                                                                                                                                                                                                                                                                                                                                                       TDIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPAP
                                                                                                                                                                                                                                                                                                                                                                                                                                          HGDHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEILDGYVIKVNGNYYVYLKPGS
                                                                                                                                                                                                                                                                    DLKYRHVEEDGLIFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEMELADRYL--
                                                                                                                                                                                                                                                                                                                                          KRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFSP
|:||| : | : |: || : |: || | : |: ||
                                                                                                                                               IFNPKDIVEETATAYIVRHGDHFHYI
                                                                                                                                                                                               GSTVSTNAKPNEVVSSLGSLSSNPSSLTTSKELS
                                                                                                                                                                                                                        GQTEDDDS
                                                                                                                                                                                                                                           NNTQSVAKGSTSKPAN-
                                                                                                                                                                                                                                                                                                                    GRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHRL
                                                                                                                                                                                                                                                                                                                                                                                               HADNVRTKDEINRQKQEHVKD-NEKVNSNVA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LGKHHMGSATKDNQIAYIDDSKGKAKAPKTNKTMDQISAEEGISAEQIVVKITDQGYVTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .ch 19.2%;
il Similarity 39.9%;
178; Conservative (
   Hame.
Brodeur, Bei.
Prodeur, Bei.
Prodeur, Bei.
                                                Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY: linear
ULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CLASSIFICATION: <Unknown>
Martin, De
Charland,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: 08/961,08 FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: US/09/765,272 FILING DATE: 22-Jan-2001
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH: 447
                                                                       Application US/09884465A o. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CHARACTERISTICS:
                                              Biochem,
                        Bernard
Nathalie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     amino
                                                                                                                                                                                                                     ·GSDHSKPS----DKEVTHTFLGHRIKAYGKGLDGKPYDTSDAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           22-Jan-2001
                                                Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          182:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MSDOS version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             65;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ore 839; DB 10;
ed. No. 6.4e-52;
Mismatches 119;
                                                                                                                                                                     453
                                                                                                                                                379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.2
                                                                                                                                                                                                                                                                                                                                                                                            --VARSQGRYTTNDGYVFNP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Length
                                                                                                                                                                                                                                                                                             KSENLQSLLKELYDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           84;
                                                                                                                                                                                              SASDGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                                                                                                                                                                                                                     427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    84
                                                                                                                                                                                              353
                                                                                                                                                                                                                                             313
                                                                                                                                                                                                                                                                    380
                                                                                                                                                                                                                                                                                             254
                                                                                                                                                                                                                                                                                                                    324
                                                                                                                                                                                                                                                                                                                                            223
                                                                                                                                                                                                                                                                                                                                                                                            166
                                                                                                                                                                                                                                                                                                                                                                                                                    204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            28
                                                                                                                                                                                                                                                                                                                                                                    264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            10;
```

```
Qy
                                                                                                                                                                     Qy
                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                 QУ
  Дb
                                                 Db
                                                                       QУ
                                                                                               Db
                                                                                                                      γ
                                                                                                                                               DЬ
                                                                                                                                                                                                                                              dd
                                                                                                                                                                                                                                                                   ОŽ
                                                                                                                                                                                                                                                                                             gg
                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                 ОĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QУ
                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; OTHER INFORMA US-09-884-465A-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Matc
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: PatentIn version 3.1
SEQ ID NO 381
LENGTH: 1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE OF INVENT
FILE REFERENCE:
CURRENT APPLICA
CURRENT FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (430)...(430) OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (431)...(431)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION NUMBER: 60/2 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: MISC
LOCATION: (1).
OTHER INFORMAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            FEATURE:
OTHER INFORMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Art
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE:
                        454
  604
                                                 564
                                                                        397
                                                                                               505
                                                                                                                        352
                                                                                                                                               445
                                                                                                                                                                       300
                                                                                                                                                                                              385
                                                                                                                                                                                                                                              330
                                                                                                                                                                                                                                                                                             270
                                                                                                                                                                                                                                                                                                                                                                   170
                                                                                                                                                                                                                                                                                                                                                                                            152
                                                                                                                                                                                                                                                                                                                                                                                                                   143
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  110
                                                                                                                                                                                                                      288
                                                                                                                                                                                                                                                                    247
                                                                                                                                                                                                                                                                                                                   200
                                                                                                                                                                                                                                                                                                                                            210
                                                                                                                                                                                                                                                                                                                                                                                                                                          92
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match
Local Simil
nes 221; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         36
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 77
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CANT: Ouellet, Catherine
OF INVENTION: Streptococcus Antigens
REFERENCE: 055190-0044
NT APPLICATION NUMBER: US/09/884,465A
NT FILING DATE: 2001-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT
                                                                                                                    VVPHGDHYHIIPRSQLSPLEMELADRYL----AGQTEDDDS--
                      GFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPL-FDTKKVSRKVTKDGKVGYM
                                                TTSKELS
                                                                                            TARGVAVPHGNHYHF----IPYEQMSELEKRIARIIPLRYRSNHWVPDSRPEEPSPQPTP
KSNQIGQPTLPN--NSLATPSPSLPINPGTSHEKHEEDGYGFD
                                                                                                                                                                                                                                                                                                                                                                                                                                      TDQGYVTSHGDHYHFYNGKVPYDAIISEELLMT--
                                                                                                                                                                                           FDEGLYEAPKGYTLEDLLATVKYYVEHPNERPHSDNGFGNASDHVXXNMQPSQLSYSSTA
                                                                                                                                                                                                                                            NTEAKGAEAIYNRVKAA-
                                                                                                                                                                                                                                                                                           YIFDPRD
                                                                                                                                                                                                                                                                                                                   YIFSPTD
                                                                                                                                                                                                                                                                                                                                                                  GLAQVAHLSKEEVAAVNE - -
                                                                                                                                                                                                                                                                                                                                                                                          DSKLAKQ
                                                                       -DKEVT
                                                                                                                                                                                                                                                           -QGRGARPSDYRPTPAPAPGRRKAPIPDVTPNPGQGHQPDNG-
                                                                                                                                                                                                                      -GYHPAP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    10.3%;
nilarity 19.7%;
Conservative 15(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       )..(1)
YTION:
                                                                     HTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYI-
                                                                                                                                                                                                                                                                                           ITSDEGDAYVTPHMTHSHWIKKDSLSEAERAAAQAYAKEKGLTPPSTDHQDSG
                                                                                                                                                                                                                                                                                                       IIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQK---
                                                                                                                                                                                                                                                                                                                                                                                         ESLSHKLGAKKTDLPSSDREFYNKAYDLLARIHQDLLDN--KGRQVDFEALDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  C_FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TION: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                 -GSKRKNI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ţ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        60/212,683
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Proline or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Glycine or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Methionine
                                                                                                                                                                                                                                           ---KKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIKFEW 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     %; Score 451;
%; Pred. No. 1
150; Mismatch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Organism
                                                                                                                                                                                                                   --PRPND--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     core 451; DB 9; 1 red. No. 1.4e-23; Mismatches 312;
                                               SASDGYIFNPKDIVEETATAYIVRHGDHFHYIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                 -RTKQQIAEQVAKGTK---EAKEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Length 1238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
-ANRIIAEDESGFV
                                                                                                                                                                                                                                                                                                                                                                 -AKRQGRYTTDDG
                                                                                                                     -GSDHSKPS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       440;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                       512
                                                                                                                                                                                           444
                                                                     453
                                                                                                                                            504
                                                                                                                                                                    351
                                                                                                                                                                                                                                                                                                                                                                                       209
657
                                                                                                                                                                                                                                                                                         329
                                                                                                                                                                                                                                                                                                                                                                 199
                                                                                             563
                                                                                                                     396
                                                                                                                                                                                                                                                                                                                                                                                                                 169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        91
                                                                                                                                                                                                                                                                  287
                                                                                                                                                                                                                                                                                                                 246
                                                                                                                                                                                                                   299
                                                                                                                                                                                                                                                                                                                                          269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               109
```

Query Match 9.3%; Score 406.5; DB 9; Length 1365; Best Local Similarity 17.8%; Pred. No. 2.4e-20; Matches 222; Conservative 156; Mismatches 310; Indels 557; Gaps 43;	US-09-884-465A-382 Sequence 382, Application US/09884465A PUBLICATION NO. US20030077293A1 GENERAL INFORMATION: APPLICANT: Shire Biochem, Inc. APPLICANT: Hamel, Josee APPLICANT: Hamel, Josee APPLICANT: Containd, Nathalie PRIOR APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 RRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2001-06-20 RRIOR FILING DATE: 2001-06-20	Qy 513 MPKDGKDYFYARDQLDLTQIAFAEDELMLKDKKHYRYDI
Db	40 40 40 40 40 40 40 40 40 40 40 40 40 4	94 97 97 97 97 97 97 97 97 97 97

1075	: :: : 1016 YPEVSYDGTETVPTSLAYKMASQTIFYPFHAGDTYLRVNPQFAVPKGTDALVRVFDEFHG	Db
696	WKDGSFSIPRA	Qy
1015	LEKKLGINMLVKLITPDGKVLEKVSGKVFGEGVGNIANFELDQPYLPGQTFKYTIASKD	Db
684	QKALAEGRFATPDGYIFD	Qy
955	: : : : : : : : : : :	Db
654	QHPEVRPDIWSKPGHE-ESGSVIPNVTPLDKRAGMPNWQIIHSAE	Qy
897	EKIAGIMKQYGVKRESIVVNKEKNAIIYPHGDHHHADPIDEHKPVGIGHSH	дb
606	LAVDVSSLPMHAGNATYDTGSSFVI-PHIDHIHVVPYSWLTRDQIATI	Qy
842	IKAAQKHLEEVKTSHNGLDSLSSHEQDYPGNAKEMKDLD	Db
553	MMPKDGKDYFYARDQLDLTQTAFAEQELMLKDKKHYRYDIVD	ОУ
782	DGYGFDANRITAEDESG	Db
510	-GFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPL-FDTKKVSRKVTKDGKVG	Qy
728	DGYIFNPKDIVEETATAYIVRHGDHFHY	Db
452	EVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHY	Qy
688	VAIPHGDHYHFIPYSKLSALEEKIA-RMVPISGTGSTVSTNAKPNEVVSSLGSLSSNPS	Db
396	YHIIPRSQLSPLEMELADRYLAGQTEDDDSGSDHSKPS	Qy
629		Db
349	QNKHQRDEFKGKTFKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAF	Qy
569	510 KIQDPIIKSNAKETLTGLKNNLLFGTQDNNTIMAEAEKLLALLKESKXXNMQPSQLSYSS	Db
298)NGGYHPAPPRPND	Qy
509	; ; ; KPTEEPEEESPEESEEPQVETEKVEEKLREAEDLLG	Db
284	TPAPAPGRRKAPIPDVTPNPGQGHQP	Qy
449		dd
257	252RPSDYR 2	Qy
389	; AKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIKFEWFDEGL	Db
251	:GA	Qy
329		Db -
246	TFSPTDIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQK	Qy
269	:: : :: :: 210 LLERLKDVSSDKVKLVDDILAFLAPIRHPERLGKPNAQITYTDDEIQVAKLAGKYTTEDG 2	Db
199	AHLSKEEVAAVNEAKRQGRYTTDDG	Qy
209		Db
169	A 2RTKOOTAFOVAKGTKFAKEK	
151	2 EPSPSPQPAPNPQPAPSNPIDEKLVKEAVRKVGDGYVFEENGVSRYIPAKNLSAETAAGI	Db xy
142	ODDNYRFKOSDVINETLDGYVIKVNG-NYYVYLKP	Ov !
91	: : : : : : : : : : : : : :	Db Y
109	YHFYNGKVPYDAIISEELLMT	0у

	Qy 200 YIFSPTDIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQK 246 	
	QY 170 GLAQVAHLSKEEVAAVNE	- 0
	Qy 143GSKRKNIRTKQQIAEQVAKGTKEAKEK 169 : : : : : : : : : :	н о
	QY 106LLMTDPNYRFKQSDVINEILDGYVIKVNG-NYYVYLKP 142 : : :	п О
	QY 77 TDQGYVTSHGDHYHFYNGKVPYDAIISEE	п О
42;	Query Match 8.9%; Score 390.5; DB 9; Length 1378; Best Local Similarity 17.6%; Pred. No. 3.4e-19; Matches 221; Conservative 149; Mismatches 318; Indels 569; Gaps	
	OTHER INFORMATION: X NAME/KEY: MISC_FEATU LOCATION: (571)(57 OTHER INFORMATION: X S-09-884-465A-378	C ** ** ** ** *
	NAME/KEY: MISC_FEATURE LOCATION: (1)(1) OTHER INFORMATION: Xaa = Methionin NAME/KEY: MISC_FEATURE LOCATION: (570)	
	TYPE: PKT ORGANISM: Artificial FEATURE: OTHER INFORMATION: Un	
	NUMBER OF SEQ ID NOS: 384 SOFTWARE: PatentIn version 3 SEQ ID NO 378 LENGTH: 1378	.,
	CURRENT APPLICATION NUMB CURRENT FILING DATE: 20 PRIOR APPLICATION NUMBER PRIOR FILING DATE: 2000-	, ., ., .,
	APPLICANT: Charland, Nath APPLICANT: Ouellet, Cathe TITLE OF INVENTION: Strept FILE PEFFERICE: 055190-004	
	APPLICANT: Shire Blochem, inc APPLICANT: Hamel, Josee APPLICANT: Brodeur, Bernard APPLICANT: Martin, Denis	
	ESULT 12 S-09-884-465A-378 Sequence 378, Application US/09 Publication No. US20030077293A: GENERAL INFORMATION:	·· ·· · · C ×
	91 TVDPVQEKVAKFAESYGMKLENVLFNMDGTIELYLPSGEVI	ם ג
	770 DVGI DDAMI EDHINGI AGKANIDEKVI TEGDEC-VOEVNKNGELV 813	o t
	QY 727 GDATDTDKPKEKQQADKSNENQQPSEASKEEEKESDDFIDSLP 769	J ,O
	Qy 697	D 0

4	192 NSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDGTIELYLPSGEVI 1244	Db 1:
	761SDDFIDSLPDYGLDRATLEDHINQLAQKANIDPKYLIFQPEG-VQFYNKNGELV 813	Qy
1191	NQTDKPSILPQFKRNKAQENSKLDEKVEEPKTSEKVEKEKLSETG	Db 1:
760	715 QQAQELLAKKNAGDATDTDKPKEKQQADKSNENQQPSEASKEEEKE	Qy 7
1136	OSTY	Db 1(
714	697SQAEW	Qy 6
1076	1017 GQTFKYTIASKDYPEVSYDGTFTVPTSLAYKMASQTIFYPFHAGDTYLRVNPQFAVPKGT	Db 10
696	681 KETFVWKDGSFSIPRA	Qy 6
1016	957 NGQKRVSFSFPPELEKKLGINMLVKLITPDGKVLEKVSGKVFGEGVGNIANFELDQPYLP	Db 9
089	FDPRDVLA	Qy 6
956	VYTGEELTNVVNLLKNSTFNNQNFTLA	Db 8
649	601 DQIATIKYVMQHPEVRPDIWSKPGHE-ESGSVIPNVTPLDKRAGMPNWQI	Qy 6
898	EEKIAGIMKQYGVKRESIVVNKEKNAIIYPHGDHHHADPI	Db 8
000	52VDTGIEPRLAVDVSSLPMHAGNATYDTGSSFVI-PHIDHIHVVPYSWLTR	Qy 5
843	785 -ANRIIAEDESGFVMSHGDHNHYFFKKDLTEEQIKAAQKHLEEVKTSHNGLDSLSSHEQD	Db 7
551	99 VSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDI	Qy 4
784	30 AYIVRHGDHFHYIPKSNQIGQPTLPNNSLATPSPSLPINPGTSHEKHEEDGYGFD	Db 7
498	41 GVTAKHGDHFHYI-GFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPL-FDTKK	Qy 4
729	690 VSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETAT	Db 6
440	SDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKS	Оу з
689	631 FDPAKIISRTPNGVAIPHGDHYHFIPYSKLSALEEKIA-RMVPISGTGSTVSTNAKPNEV	Db 6
388	38 FEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEMELADRYLAGQTEDDDS	0у з
630	71 XNMQPSQLSYSSTASDNNTQSVAKGSTSKPANKSENLQSLLKELYDSPSAQRYSESDGLV	Db 5
337	97NDASQNKHQRDEFKGKTFKELLDQLHRLDLKYRHVEEDGLI	Qy 2
570	11 DAEALLEKVTDPSIRQNAMETLTGLKSSLLLGTKDNNTISAEVDSLLALLKESQPAPIQX	Db 5
296	292APPRP ;	Qy 2
510	: II 51 SEPTHPESDEKENHAGLNPSADNLYKPSTDTEETEEEAEDTTDEAEIPQVENSVINAKIA	Db 4
291	86 NGGYHP	Qy 2
450	391 YEAPKGYSLEDLLATVKYYVEHPNERPHSDNGFGNASDHVRKNKADQDSKPDEDKEHDEV	Db 3
285	253PSDYRPTPAPAPGRRKAPIPDVTPNPGQGHQPD	ΟУ 2
390	: : 31 NTEAKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIKFEWFDEGL	Db 3
252	247 QGRGAR	Qy 2

RESULT 13
US-09-884-465A-377
; Sequence 377, Application US/09884465A
; Publication No. US20030077293A1
; GENERAL INFORMATION:
; APPLICANT: Shire Biochem, Inc.
; APPLICANT: Hamel, Josee
; APPLICANT: Brodeur, Bernard

APPLICANT:

```
2
                                     Вp
                                                                                                                                           Qy
                                                                                                                                                                                                                   QY
                                                                        Š
                                                                                                            g
                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                                                                              50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δŏ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US-09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: MISC_FEATURE LOCATION: (1)..(1)
OTHER INFORMATION: Xaa
NAME/KEY: MISC_FEATURE LOCATION: (570)..(570)
OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus FILE REFERENCE: 055190-0044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 99
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY: MISC_FEATURE LOCATION: (571)..(571) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ID NO 377
ENGTH: 999
   568
                                                                         508
                                                                                                                                               448
                                                                                                                                                                                   650
                                                                                                                                                                                                                                                        591
                                                                                                                                                                                                                                                                                           332
                                                                                                                                                                                                                                                                                                                                                                                                   476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             201
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                            DGY-
PMHAGNATYDTGSSFVIPHIDHIHVVPYSWLTRDQIATIKYVMQHPEVRPDIWSKPGHEE
                                                                                                                                          DHFHYIGFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDG
                                                                                                                                                                                                                                                    ESDGLIFDPAQITSRTARGVAVPHGNHYHFIPYEQMSELEKRIARIIPLRYRSNHWVPD-
                                                                                                                                                                                                                                                                        EEDGLIFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEMELAD----RYLAGQTEDDD
                                                                                                                                                                                                                                                                                                                         FTASYGLGLDSVIFNMDGTIELRLPSGEVIKKNLSDFIAXXDIDSLLKQLYKLPLSQRHV
                                                                                                                                                                                                                                                                                                                                                                                               ADSLP---EAPNEK---PVKPENSTDNGMLNPEGNVGSDPMLDPALEEAPAVDPVQEKLEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QFAVPKGTDA---LVRVFDE----FHGNAYLENNYKV--
                                                                      KVGYMMPKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSL
                                                                                                                                                                                                                  SGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ELYLPSGEVIKKNMADFTGEA---PQGN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EPKTSEKVEKEKLSETGNSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDGTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TAGNKIPVTFMANAYLDNQSTYIVEVPILEKENQTDKPSILPQFKRNKAQENSKLDEKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                    SDYRPTPAPAPGRRKAPI-PDVTPNPGQGHQPDNGGYHP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QISAEEGISAEQIVVKITDQGYVTSHGDHYHFYNGKVPYDAIISEELLMTDPNY--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -IFSPT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -AKGTKEAKEKGLAQVAHLSK----EEVAAVNEAKRQ-GRYTTDDGY--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                180;
                                                                                                                                                                               -SRPEEPSPQPTPEPSPSPQPAPNPQPAPSNPIDEK----LVKEAVRKV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --RFKQSDVINEILDG---YVIKV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PatentIn
                                     -LPSSDREFY--NKAYDL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Martand, Nacuma
Charland, Nacuma
Charland, Nacuma
Charland, Nacuma
Charland, Nacuma
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8.2%; llarity 22.3%; Conservative 11
                                                                                                         --VFEENGVSRYIPAKNLSAETAAGIDSKLAKQESL--SHKLGAKKTD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -DIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Unknown Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Proine or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             114;
                                                                                                                                                                                                                                                                                                                                                             - RPNDASQNKHQRDEFKGKTFKELLDQLHRLDLKYRHV
                                 -LARIHQDLLDNKGRQVDFEALDNLLE-RLK-DVSS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 359.5; D
Pred. No. 3.5e-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --NGNYYVYLKPGSKRKNIRTKQQTAEQV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ---GENKPSENGKVSTGTVENQPTENKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           .17;
282;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GEIKLPIPKLNQGTTR
                                                                                                                                                                                                                                                                                                                                                                                                                                     ---APP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               999;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
```

305

113

37;

425

365

200

627

789

567

507

694

447

649

387

590

331

530

294

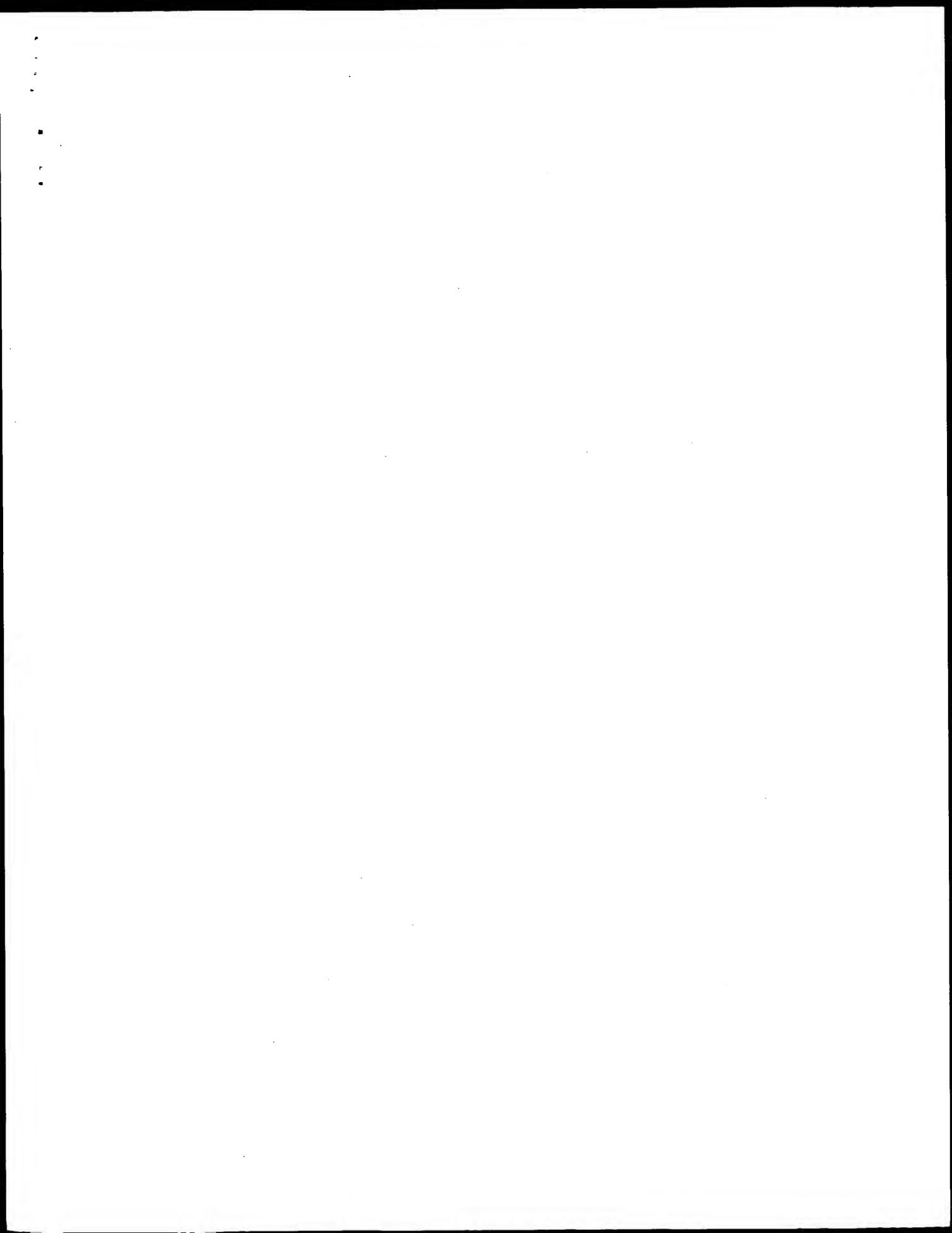
475

253

```
QУ
                        Db
                                              Ω
                                                                     Db
                                                                                          QΥ
                                                                                                                  Db
                                                                                                                                        QУ
                                                                                                                                                               Дb
                                                                                                                                                                                    γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           us-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                         US-09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 3/2,
Sequence 3/2,
Publication No. USZOV
PUBLICATION:
Shire Bid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ ID NO LENGTH:
                                                                                                                                                                                                                       Best
                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CURRENT APPLICAPRIOR APPLICA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -09-884-465A-3
Sequence 379,
                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
TITLE OF I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                   NAME/KEY: MISC_FEATURE LOCATION: (344)..(344) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                    NAME/KEY: MISC_FEATURE LOCATION: (1)..(1) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                  OTHER INFOR
                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                           TYPE:
                                                                                                                                                                                                                                                                            NAME/KEY: MI
LOCATION: (
                                                                                                                                                                                                                                                                                                                                                                          OTHER
                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
 254
                        485
                                              194
                                                                     450
                                                                                            135
                                                                                                                  413
                                                                                                                                                               356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        903
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              748
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     852
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             790
                                                                                                                                                                                                                    Local
                                                                                                                                         76
                                                                                                                                                                                     32
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE:
                                                                                                                                                                                                                                                                                                                                                                                                           PRT
                                                                                                                                                                                                                                                                                                                                                                                                           T--
                                                                                                                                                                                                                                                                                                                                                                      INFORMATION: Unknown Organism
                                                                                        NYYVYLKPGSKRKNIRTKQQIAEQVAK-GTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGR
                                                                                                                   RTPNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKGAEAIYNRVKAAKKVPLDRMP-YNL 928
 SDYRP
                                                                                                                                        ITDQG
                                                                                                                                                               STASD
                                                                                                                                                                                   SATKDNQIAYIDDSKGKAKAPKTNKT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QQPSEASKEEEKESDDF-IDSLPDYGL 773
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GDAYVTPHMTHS--HWIKKDSLSEAERAAAQAYAKEKGL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DGSFS
                                                                                                                                                                                                         196; Conservative 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ANI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Charland, Nac...
Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Brodeur, best
                                                                                                                                                                                                                                                                 WISC_FEATURE (345)..(345)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                ICATION NUMBER: US/09/884,465A
NG DATE: 2001-06-20
ATION NUMBER: 60/212,683
DATE: 2000-06-20
                                                                                                                            YVTSHGDHYHFYNGKVPYDAIIS-EELLMTDPNYRFKQSDVINEILDGYVIKVNG 134
                                                                                                                                                             NNTQSV--AKGSTSKP-ANKSENLQSLLKELYDSPSAQRYSESDGLVFDPAKIIS 412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ouellet, Catherine ENTION: Streptococcus Antigens CE: 055190-0044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        IPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDTDKPKEKQQADKSNEN
TPAPAPGRRKAP I PDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKT
                                                                                                                 VAIPHGDHYHF----IPYSKLSALEEKI--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Application US/09884465A US20030077293A1
                                                                   -GS---TVSTNAKPNEVVSSLGSLSSNPSSLTTSKELS--
                                                                                                                                                                                                                                                                                                                          ION: Xaa
_FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Bernard
                                                                                                                                                                                                                                                                    il
                                                                                                                                                                                                                                                                   Proline or nothing
                                                                                                                                                                                                                                                                                                  Glycine or nothing
                                                                                                                                                                                                                                                                                                                                     Methionine or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -DKVKLV--
                                                                                                                                                                                                           138;
                                                                                                                                                                                                       Score 359; DB 9; Length 11
Pred. No. 4.7e-17;
8; Mismatches 290; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -DDILAFLAPIRHPE-
                                                                                                                                                                                   ---MDQISAEEGISAEQIV----VK 75
                                                                                                                                                                                                                                Length 1152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --TPPSTDHQDSGNTE 902
                                                                                                               ----ARMVPISG
                                                                                                                                                                                                         322;
                                                                                                                                                                                                        Gaps
                       528
                                                                   484
                                                                                         193
                                                                                                                 449
313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        747
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            809
                                                                                                                                                                                                          50;
```

```
APPLICANT: Martin, Denis
APPLICANT: Charland, Nathalie
APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus Antigens
FILE REFERENCE: 055190-0044
CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
SOFTWARE: PatentIn version 3.1
SEQ ID NO 383
LENGTH 1100
                                                                                                                                                                                                                                                                                                                            RESULT 15
US-09-884-465A-383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Dp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                    Publication No. US2 GENERAL INFORMATION
                                                                                                                                                                                                                                                                    APPLICANT:
    FEATURE:
                              TYPE: PRT ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                     1100
                                                                                                                                                                                                                                                                                                                                                                                                                                             1042
                                                                                                                                                                                                                                                                                                                                                                                                                 775
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   983
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              676
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     631
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                875
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      869
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       421
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 529
                                                                                                                                                                                                                                                                                                                                                                                  EAPAVDPVQEKLEKFTASYGLGLDS -- VIFNMDGTIELRLPSGEVI 1143
                                                                                                                                                                                                                                                                                                                                                                                                              RATLEDHINQLAQK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QEKVAKFAESYGMKLENVLFNMDGTIELYLPSGEVIKK-NMADFTGEAPQGNGENKPSEN
   INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                        GKVSTGTVENQPTENKPADSLPE--APNEKPVKPENSTDNGMLNPEGNVGSDPMLDPALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGDATDT - - DKPKEKQQADKSNENQQPSEASKEEEKESDDFI -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPH --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KKEGNKVYTGEELTNVVNLLKNSTFNNQNFTLANGQKRVSFSFPPELEKKLGINMLVKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RDVLAK - - ETFVWK - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IKLPIPKLNQGTTRTAGNKIPVTFMANAYLDNQST--YIVEVP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PTSLAYKMASQTIFYPFHAGDTYLRVNPQFAVPKGTDALVRVFDEFHGNAYLENNYKVGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TKDGKVGYMMPKDGKDY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NNSLATPSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VIPNV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TPDGKV--LEKVSGKVFGEGVGNIANFELDQPYLPGQTF-KYTIASKDYPEVSYDGTFTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --KRESIVVNKE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YDTSDAYVFSKESIHSVDKSGVTAKHGDHFHY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AAQKHLEEVKTSHNGLDSLSSHEQDYPGNAKEMKDLDKKIEEKIAG-IMKQYGV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LADRY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEME
                                                                                                                                                                                                                                                                                                                 383,
                                                                                                                                                                                                                                                      Shire Biochem, Hamel, Josee
                                                                                                                                                                                                                                                                                                 Application US/09884465A
o. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --ADELAAALD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -TPLDKRAGMPNWQIIHSAEEVQK-ALAEGRFATPDGYI-
   Unknown
                            Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -LPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---KNAIIYPHGDHHHADPIDEHKPVGIGHSHSNYELFKPEEGVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -VVPYSWLTR----DQIATIKYVMQHPEVRPDIWSKPGHEESGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -LAGQTEDDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Inc
                                                                                                                                                                                                                                                                                                                                                                                                             -ANIDPKYLIFQPEG-VQFYNKNGELV
Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -DGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -NPGTSHE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -FYARDQLDLTQIAFAEQELMLKDKKHYRYD---IV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --QEQGKEKPLFD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - IGFGEL - EQYELDEVANWV -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IDHIH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --- TLEKENQTDKPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --TKKVS--
                                                                                                                                                                                                                                                                                                                                                                                                               813
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DSLPDYGLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -FDP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -RKV
                                                                                                                                                                                                                                                                                                                                                                                                                                         1099
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          725
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1041
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            927
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      982
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       630
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           814
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     592
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 373
```

```
; NAME/KEY: MISC_FEATURE
; LOCATION: (1)..(1)
; OTHER INFORMATION: Xaa = Methionine
; NAME/KEY: MISC_FEATURE
; LOCATION: (557)..(557)
; OTHER INFORMATION: Xaa = Glycine or
; NAME/KEY: MISC_FEATURE
; LOCATION: (558)..(558)
; OTHER INFORMATION: Xaa = Proline or
US-09-884-465A-383
Search completed:
Job time : 249.02
                                                                                Qy
                                                                                                                                  QУ
                                                                                                                                                              DЪ
                                                                                                                                                                                       QУ
                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                             QУ
                                                       DЪ
                                                                                                           B
                                                                                                                                                                                                                                                                      DЪ
                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                             DЪ
                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local Simi
Matches 138;
                                                       430
                                                                                                          378
                                                                                                                                    770
                                                                                                                                                              319
                                                                                                                                                                                      733
                                                                                                                                                                                                                                            673
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              377
                                                                                                                                                                                                                                                                      238
                                                                                                                                                                                                                                                                                                                         208
                                                                                                                                                                                                                                                                                                                                                                             161
                                                                                                                                                                                                                                                                                                                                                                                                      493
                                                                                                                                                                                                                                                                                                                                                                                                                                119
                                                                                                                                                                                                                                                                                                                                                                                                                                                          433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  317
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        σ
                                                                                                                                                                                                                                                                                                                                                                                                                               AVRKV-
                                                    Q-RNKNGQADT 439
                                                                    QFYNKNGELVT 814
                                                                                                        HNIKFEWFDEGLYEAPKGYTLEDLLATV--
                                                                                                                                                                                                                                                                     PE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -TPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHY
                                                                                                                                                                                    DKPKEKQQADKSNENQQPSEASKEEEKESDDF-IDSLP----
                                                                                                                                                                                                                                       FDPRDVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDT
                                                                                                                                                                                                                                                                                              PEVRPDI
                                                                                                                                                                                                                                                                                                                        DNLLE-RLK-DVSS----
                                                                                                                                                                                                                                                                                                                                                                            Ľ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IIPLRYRSNHWVPD----SRPEEPSPQPTPEPSPSPQPAPNPQPAPSNPIDEK----LVKE
                                                                                                                                                                                                                 FDPRDIT
                                                                                                                                                                                                                                                                                                                                               DTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYSWLTRDQIATIKYVMQH
                                                                                                                                                                                                                                                                                                                                                                                                                                                     SIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKP 492
                                                                                                                                                                                                                                                                                                                                                                                                      LFDTKKV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----RYI
                                                                                                                                                                                                                                                                                                                                                                            SHKLGAKKTD--
                                                                                                                                                                                                                 SDE--
                                                                                                                                                                                                                                                               WSKPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ilarity
                                                                                                                                                                                                                                                                                                                                                                                                 'SRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          AGQTEDDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKE 432
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        7.8%; Score 341; DB 9; I larity 25.0%; Pred. No. 8.8e-16; Conservative 66; Mismatches 177;
                                                                                                                               -DYGLDRA----TLEDHINQLAQKANIDPKYLIFQP-
May 19, 2003, 08:23:52 secs
                                                                                                                                                                                                             ---GDAYVTPHMTHS--HWIKKDSLSEAERAAAQAYAKEKGL--
                                                                                                                                                                                                                                                                                                                                                                       -----LPSSDREFY--NKAYDL--LARIHQDLLDNKGRQVDFEAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                            -VFEENGVSRYIPAKNLSAETAAGIDSKLAKQES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or nothing
                                                                                                                                                                                                                                                                                                                       --DKVKLV--
                                                                                                      KYYVEHPNERPHSDNGFGNASDHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 1126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                      ---DDILAFLAPIRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        170;
                                                                                                                                 -EGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                          672
                                                                                                       429
                                                                                                                                 803
                                                                                                                                                                                                                                                                                                                                               612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 118
                                                                                                                                                           377
                                                                                                                                                                                    769
                                                                                                                                                                                                             318
                                                                                                                                                                                                                                         732
                                                                                                                                                                                                                                                                   271
                                                                                                                                                                                                                                                                                                                      237
                                                                                                                                                                                                                                                                                                                                                                                                   552
                                                                                                                                                                                                                                                                                                                                                                                                                             160
                                                                                                                                                                                                                                                                                                                                                                         207
```



```
Title:
Perfect s
Sequence:
                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                              Databas
                                                                                                                                                                                                                                                                                                                                                                                                   Minimum
                                                                                                                                                                                                                                                                                                                                                                            Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                   Total number
                                                                                                                                                                                                                                                                                                                                                                                                                                  Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Scoring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Run
                                                                                                                                                                                                                                                                                                                                                                                             Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
     2222222111111111
26542210987654321
76543210987654321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        on
::
                                                                                                                                                                                                                                                                 score q
                                                                                                                                                                                                                                                                                Pred.
                                                                                                                                                                                                                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                score:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          table:
    1032
949
143.5
142.5
142.5
133.5
131.5
131.5
132.5
128.5
128.5
128.5
127
127
127
127
123.5
123.5
123.5
123.5
123.5
                                                                                                                                                                                                                          Score
                                                                                                                                                                                                                                                                                                                                                                                          seq
                                                                                                                                                                                                                                                                 greater t
s derived
                                                                                                                                                                                                                                                                                No.
                                                                                                                                                                                                                                                                                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein search,
                                                                                                                                                                                                                                                                                                                                                                                          length:
length:
                                                                                                                                                                                                                          Query
Match
                                                                                                                                                                                                                                                                                S,
                                                                                                                                                                                                                                                                                                                                                                                                                 hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-645-835A-2
4376
1 VKKTYGYIGSVAAILLATHI.
                                                                                                                                                                                                                                                                                              Issued_Patents_

1: /cgn2_6/ptod.

2: /cgn2_6/ptod.

3: /cgn2_6/ptod.

4: /cgn2_6/ptod.

5: /cgn2_6/ptod.

6: /cgn2_6/ptod.
                                                                                                                                                                                                                                                                                                                                                                                                                                                BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                           Minimum
Maximum
Listing
   262574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Мау 19,
                                                                                                                                                                                                                                                                                            issued_Patents_AA:*
   /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
   /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
   /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
   /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
   /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
   /cgn2_6/ptodata/1/iaa/backfiles1.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Copyright
                                                                                                                                                                                                                                                                                the number of
                                                                                                                                                                                                                                                               than
d by a
                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                         an or equal to the sy analysis of the
                                                                                                                                                                                                                                                                                                                                                                                          0
20000000000
   763
796
447
1861
1588
1663
2465
1541
1541
1938
1076
1076
765
765
10182
10182
10182
1366
2366
2366
2366
1702
                                                                                                                                                                                                                                                                                                                                                                                                                                 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2003,
                                                                                                                                                                                                                                                                                                                                                            Match 100%
first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GenCore
(c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapext
                                                                                                                                                                                                                                                                                                                                                                                                                                 29422922 residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    using sw
     4442522223452442424212344453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07:51:03
 US-08-961-083-66
US-08-961-083-56
US-08-961-083-182
US-08-961-083-182
US-08-790-912-4
PCT-US93-07261-11
PCT-US93-07261-16
US-08-596-291-3
US-09-100-804-3
US-09-514-302-2
US-09-514-302-2
US-08-663-112-2
US-08-663-112-2
5231168-2
US-09-134-001C-3159
US-09-059-584-46
US-09-059-584-46
US-08-480-604A-10
US-08-480-604A-10
US-08-915-136-10
US-08-957-310-10
US-08-296-791-5
PCT-US95-10661A-5
PCT-US95-10661A-5
PCT-US95-10661A-5
PCT-US95-10661A-5
                                                                                                                                                                                                                                                                                                                                                             summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                 0
                                                                                                                                                                                                                                                 SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            version - 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                 parameters:
                                                                                                                                                                                                                                                               e score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Search time 12.8853 Seconds (without alignments)
1883.841 Million cell upd
                                                                                                                                                                                                                                                                       predicted by score of the
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            5.1.4_p5
Compugen
                                                                                                                                                                                                                                                               score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YNKNGELVTYDIKTLQQINP
                                                                                                                                                                                                                                                             by chance to hav the result being a distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            _4578
Ltd.
 Sequence
                                                                                                                                                                                                                   Description
                                                                                            Sequence
                                                                                    NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     updates/sec
                                                                                                                                                                                                                                                                     printed,
56, Appl
56, Appl
182, App
4, Appli
11, Appli
16, Appli
3, Appli
3, Appli
3, Appli
4, Appli
2, Appli
19, Appli
19, Appli
2, Appli
19, Appli
6, Appli
6, Appli
6, Appli
10, Appl
```

DЬ

 \sim

SYQLGKF

HHMGSATKD-NQIAYIDDSKGKAKAPKTNKTMDQISAEEGISAEQIVVKITDQG 80

QУ

22

Query I Best Lo Matches

y Match Local Simi hes 285;

23.6%; Score 1032; DB 4; ilarity 33.6%; Pred. No. 1.8e-75; Conservative 101; Mismatches 249;

Length 763;

Indels

212;

Gaps

32;

59

S

80-

LENGTH: 7
TYPE: ami
STRANDEDNE
TOPOLOGY:
MOLECULE TYP
8-961-083-66

PE:

protein

linear

single

763 amino acids

ino acid

RESULT 1 US-08-961- Sequence Patent N GENERAL APPLI TITLE NUMBE CORRE ADD STA COU ZIP COMPU MED COMPU MED COMPU MED COMPU MED COMPU NAMI REGI REGI TITLE SOFT CURREI APPI FIL SOF	22 22 23 23 23 23 24 24 24 24 25 26 26 26 26 26 26 26 26 26 26 26 26 26
OR OF THE POINT OF THE STREET	121 121 121 121 121 121 121 120.5 120.5 120.5 120.5 120.5 120.5 120.5 120.5
pplicati 9469 9469 Choi et Choi et VENTION: EQUENCES NCE ADDR: Human 9410 Key ckville aryland USA 50 ASCII LICATION: ASCII LICATION: CATION DON NUMBE TE: ATION UMBE TE: CATION ICATION ICATIO	222222222222222222222222222222222222222
	608 608 608 609 609 5466 542 11181 1181 672 8672
	124414851814248448
08961083 ptococcus pneumoniae Antigens e Sciences, Inc. Avenue 3.50 inch, 1.4Mb storage 6/33 S version 6.2 Version 6.2 708/961,083 708/961,083 66:	US-08-480-604A-21 US-08-405-496A-21 US-08-915-136-21 US-08-957-310-21 US-08-980-604A-30 US-08-915-136-30 US-09-080-855-12 PCT-US94-09943-2 US-09-032-365A-13 US-09-032-365A-13 US-09-134-001C-3242 US-09-290-640-46 US-09-621-855-4 US-09-134-001C-4081 US-09-134-001C-4081 US-09-040-843-2
and Vaccines	sequence 21, Appl sequence 21, Appl sequence 21, Appl sequence 30, Appl sequence 30, Appl sequence 2, Appli sequence 2, Appli sequence 2, Appli sequence 3242, Appli sequence 2, Appli sequence 40, Appli sequence 4, Appli sequence 2, Appli sequence 2, Appli sequence 2, Appli

```
δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÔ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         S
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                  RESULT 2
US-08-961-083-56
                                                                                                                                         Sequence 56, Application US/08961083 Patent No. 6159469 GENERAL INFORMATION:
                                                                                    APPLICANT: Choi et. al TITLE OF INVENTION: St NUMBER OF SEQUENCES: 4 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  227
                                                                                                                                                                                                                                           684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   491
                STREET:
CITY: RC
STATE: N
COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 60
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          81
ZIP:
                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IFSPTDIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KDAAHADNIRTKEEIKRQ-----KQERSHN-----HNSRAD-NAVAAARAQGRYTTDDGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGY
                                                                                                                                                                                                                                                                   KNGELVT
                                                                                                                                                                                                                                                                                                                                                      STDHODSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PDIWSKPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      E-RLK-DVXS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYSWLTRDQIATIKYVMQHPEVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HKLGAKKTD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VDKSGVTAKHGDHFHY IGFGELEQYELDEVANWVKAKGQADELAAALDQEQGKEKPLFDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       RYRSNHWVPD---SRPEQPSPQSTPEPSPSPQPAPNPQPAPSNPIDEK----LVKEAVRK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RYLAGQTEDDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KNGQADT
                                                                                                                                                                                                                                                                                                  FEWFDEGLYEAPKGYTLEDLLATV
                                                                                                                                                                                                                                                                                                                                                                                EKQQADKSNENQQPSEASKEEEKESDDF-IDSLP-
                                                                                                                                                                                                                                                                                                                                                                                                             DITSDE - -
                                                                                                                                                                                                                                                                                                                                                                                                                                      DVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDTDKPK
                                           SSEE: Human
[: 9410 Key
Rockville
    20850
                                                                                                                                                                                                                                                                                                                             -DYGLDRA----TLEDHINQLAQKANIDPKYLIFQP-
                                Maryland
                   USA
                                                                                                                                                                                                                                                                      814
                                                                                                                                                                                                                                           690
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -GDGY--
                                                                                                                                                                                                                                                                                                                                                                                                             --GDAYVTPHMTHS--HWIKKDSLSEAERAAAQAYAKEKGL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -- NPAQPRLSENHULTVTP--
                                                          West Avenue
                                                                        Genome Sciences,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -LPSSDREFY--NKAYDL--LARIHQDLLDNKGRQVDFEALDNLL
                                                                                                  Streptococcus pneumoniae 452
                                                                                                                               al.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -----VFEENGVSRYIPAKDLSAETAAGIDSKLAKQESL--S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                RLGKPNAQITYTDDEIQVAKLAGKYTTEDGYIFDPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----DKVKLV--
                                                                                                                                                                                                                                                                                                  KYYVEHPNERPHSDNGFGNASDHVQ-RN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---TYHQN---QGENISSLLRE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----XDILAFLAPIRHPE--
                                                                                                                 Antigens
                                                                                                                    and
                                                                                                                                                                                                                                                                                                                             EGVQFYN
                                                                                                                    Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                              --TPP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             496
                                                                                                                                                                                                                                                                                                   683
                                                                                                                                                                                                                                                                                                                             807
                                                                                                                                                                                                                                                                                                                                                        632
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         490
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  436
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              320
                                                                                                                                                                                                                                                                                                                                                                                   769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             462
```

```
QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     УQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; MOLECULE T
US-08-961-083-5
                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                DЬ
                                                                                               Q
                                                                                                                                               Дb
                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                dd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ΩУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           망
                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                              Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                            Вþ
QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIL.

APPLIC.

FILING DATE

FILING DATE

FILING DATE

ATTORNEY/AGENT IN.

NAME: Brookes, A. S.

REGISTRATION NUMBER: 36,

REFERENCE/DOCKET NUMBER: PBURGOCKET NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TELEFAX: (301) 309-8512
FORMATION FOR SEQ ID NO: 56
SEQUENCE CHARACTERISTICS:
LENGTH: 796 amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          141
                                                                                                                                                                                                                                                                                                                                                                                             377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            259
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            201
  469
                                                512
                                                                                                421
                                                                                                                                                 452
                                                                                                                                                                                                                                             392
                                                                                                                                                                                                                                                                                                                                                                                                                                              272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RIOR APPLICATION DATA:
APPLICATION NUMBER
FILTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM: MS
SOFTWARE: ASCII Text
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
mes 277; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STRANDEDNESS:
TOPOLOGY: Li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SYELG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SYQLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TPAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELL
                                                                                                                                                                                                                                                                                                                                             PLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KDAAHADNVRTKEEINRQKQEHSQH-REGG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGY
  WVKAKG-
                                                                                                                                                 KALFXNKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERLGKPNSQIEYT
                                                                                                                                                                                                                                                KGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEAH 451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QNSDNTSRTNW-VPSVS-NPGTTNTNTSN--
                                               EDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQA
                                                                                                                                                                                                                                                                                                                                                                                             --RYLAGQTEDD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EADABLE FORM:
YPE: Diskette, 3.50 inch,
HP Vectra 486/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  21.7%; Score 949; DB 4; 1 larity 29.5%; Pred. No. 1.1e-68; Conservative 100; Mismatches 214;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    single
                                                                                               YDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVAN 468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MSDOS version 6.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/08/961,08
 QADELAAALDQEQGKEK-PLFDTKKVSRKVTKDGKVGYMM 513
                                                                                                                                                                                                                                                                          HSKPSDKE-VTHTFLGHR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---TPRNDGAVALARSQGRYTTDDGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -- NSNTNSQASQSND-
                                                                                                                                                                                                                                                                                                                                                                                                --DSGSD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 796;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                 - IKAY - -
                                                                                                                                                                                                   -GKP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -IDSLL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              200
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       117
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        57
                                                                                                                                                                                                                                                                                                                                                 391
                                                                                                                                                                                                                                                                                                                                                                                                                                                   331
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              258
                                                     571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               169
                                                                                                                                                                                                                                                                                              412
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              226
                                                                                                                                                                                                                                                                                                                                                                                                 391
                                                                                                                                                                                                   420
```

```
US-
               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
US-08-961-083-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5
                                                                                                                                                              REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB34
TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 182:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No.
GENERAL II
                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 182, Application Patent No. 6159469
                                         Matches
                                                                Query Match
                                                                                                                                                                                                                                                                                                                                                  COMPUTER: HP Vectra 48
OPERATING SYSTEM: MSDO
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
                                                                                         MOLECULE TYPE: 3-961-083-182
                                                                                                                                                                                                                                                                                       CLASSIFICATION: 435
PRIOR APPLICATION DATA:
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                   ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION: NAME: Brookes, A. Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       733
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      679
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               619
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        514
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET:
                                        Local Similarity
nes 178; Conser
                                                                                                                          STRANDEDNESS
                                                                                                                                                                                                                                                                              FILING DATE:
                25
                                                                                                               TOPOLOGY:
                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                          COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : | ||
: | ||
: | ||
YTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLV
LGKHHMGSATKDNQIAYIDDSKGKAKAPKTNKTMDQISAEEGISAEQIVVKITDQGYVTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GLRNNLTLQIMDNNSIMAEAEKLLALLKGSNPSSVSKEK 794
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LAKETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GW--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATYDTGSSFVIPHIDHIHVVPYSWL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PKDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                IWSKPGHEESGSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                SSEE: Human Genome Sciences,
1: 9410 Key West Avenue
Rockville
                                                                                                                                        amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maryland
                                                                                                                                                     447 amino acids
                                      19.2%; ilarity 39.9%; Conservative 6
                                                                                                                                                                                                                                                                                                                                                                                                                                           USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Choi et.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           :||| || : ::|
-LIIPHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSND
                                                                                                                                                                                                                                                                                                                                                                                        HP Vectra 486,
                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GNASEHVLGKKDHSEDPNKNFKADEEPVEETPAE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DKPKEKQQADK---SNENQQPSEASKEE 757
                                                                                                    protein
                                                                                                                          single
                                                                                                                                                                                                                                                   A. Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             - VPQVE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       al.
Streptococcus
· 452
                                                                                                                                                                                                                                                                                                                                                                              MSDOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/08961083
                                                                                                                                                                                                                                                                                                                                                                                        3.50 inch,
6/33
                                                                                                                                                                                                                                                                                                                                         /08/961,083
                                       65;
                                                                                                                                                                                                                                                                                                                                                                              version
                                                                                                                                                                                                                              PB340P2
                                                  Score
Pred.
                                      ed. No. 4.1e-6
Mismatches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -TEKVEAQLKEAEVLLAKVTDSSLKANATETLA
                                                                                                                                                                                                                                                                                                                                                                             σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EH-
                                                                                                                                                                                                                                                                                                                                                                                                      1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -TRDQIATIKYVMQHPEVRP-
                                                                                                                                                                                                                                                                                                                                                                                                    storage
                                   4;
-60;
119;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Antigens
                                                             Length 447
                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TVEVKN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AGDATDT -
                                      84;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RLPYMV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ġ
                                      Gaps
             84
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           755
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   678
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     573
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           718
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            680
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             628
                                      10;
```

```
QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 4
US-08-790-912-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
    TELEFAX: (215) 567-2991
TELEFAX: (215) 567-2991
TELEX: 831-494
INFORMATION FOR SEQUENCE CHARACTOR
LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 4
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL
                                                                                                                                                                                             SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/08/790,912
FILING DATE: 29-JAN-1997
                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT: Weiser, Jeffrey N. APPLICANT: Plaut, Andrew G. TITLE OF INVENTION: COMPOSITIONS AND TITLE OF INVENTION: OF STREPTOCOCCUS
                                                                                                                         APPLICATION NUMBER: US 6
FILING DATE: 23-SEP-1996
ATTORNEY/AGENT INFORMATION:
NAME: Leary, Kathryn
                                                                                                                                                                         CLASSIFICATION: PRIOR APPLICATION
                                                                                                                                                                                                                                                                   COMPUTER READABLE MEDIUM TYPE: FI
                                                                                                                                                                                                                                                                                                                                                             NUMBER OF SEQUENCES: 1
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         428
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    354
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            145
                                                                                                                                                                                                                                            COMPUTER:
OPERATING
                                                                                                                                                                                                                                                                                                                           STREET:
CITY: |
                                                                                                                                                                                                                                                                                        COUNTRY: US
ZIP: 19103-
                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  59
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          85
TYPE: ami
STRANDEDNE
                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ۳
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GSTVSTNAKPNEVVSSLGSLSSNPSSLTTSKELS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TDIIDDLGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GQTEDDDS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NNTQSVAKGSTSKPAN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KRKNIRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHRL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    HADNVRTKDEINRQKQEHVKD-NEKVNSNVA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LNQHRSQENKDNNRVSYVDGSQSSQKS--ENLTPDQVSQKEGIQAEQIVIKITDQGYVTS
                                                                                                                                                                                                                                                                                                                                                                                                                                   INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                            4, Application US/08790912
3. 5976542
                                                                                                                                                                                                                                                                                                                            Phi
                                                                                                                                                                                                                                                                                                               Pennsylvania
no acid
SSS:
                                                                                                                                                                                                                                                                                                                          PANITCH SCHWARZE
601 Market Street,
ladelphia
                                                                                                                                                                         ATION DATA:
                                                                                                                                                                                                                                            IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFSP
                                                                                                                                                                                                                                                                                           2398
                                                                                                                                                                                                                                                                  Floppy disk
                                                                                                                                                  MBER: US 60/026,939
23-SEP-1996
                                                                                                                                                                                               MBER: US/08/790,912
29-JAN-1997
                                                                                                                                                                                                                                                                                FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --GSDHSKPS----DKEVTHTFLGHRIKAYGKGLDGKPYDTSDAY
                                                                                                                                                                                                                                                                                                                                                                           10
                                                                                                     7600-4U1
                                                                                                                                                                                                                                                                                                                                       JACOBS & NADEL,
36th Floor
                                                                                                                                                                                                                                 Version
                                                                                                                                                                                                                                                                                                                                                                                     METHODS FOR TREATMENT PNEUMONIAE INFECTION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----VARSQGRYTTNDGYVFNP 166
                                                                                                                                                                                                                                 #1.30
                                                                                                                                                                                                                                                                                                                                                   P.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -KSENLQSLLKELYDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -SASDGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      427
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               3
5
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             313
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           204
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; TOPOLOGY: 1; MOLECULE TYPE: US-08-790-912-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
 Q
                                     DЬ
                                                                   Ş
                                                                                                        밁
                                                                                                                                     20
                                                                                                                                                                           밁
                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                           Š
                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                            δ
                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Be
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           y macch 3.3%;
Local Similarity 18.3%;
hes 190; Conservative 16
750
                                     998
                                                                                                        946
                                                                                                                                         649
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 36 DNQIAYIDDSKGKAKAPK----TNKTMD-QISAEE-GISAEQIVVKITDQGYVTSHGDHY
                                                                                                                                                                         GVAGYLW-DRDS-SEERHAGRLHNVLSDINVMNGNAISGYHYRGMRITDSYSNKDNRVYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GKYKQHVSLDAIPSNQENYFVKVKSSKFKDVFLPISSIVDSTKDGQPV-----YKITASA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GHQPD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PAPGRRKAPIPD --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GRKIEVVRIFTVDNAEVSREVLSTKIEEATPKIVEKGTKKLEAPSEKPVTSNLVQPEQVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 HFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEILDGYVIKVN-----GNYYVYL--KP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DNK----IPDNQQNANVDKEALNQNKKLDYSVSFDKNGLKNQTVGVNTIE
                                                                                                                                                                                                                                                                                                                                                                                 KNYAI - - - YNLKKPLFDTLSAATVENLTLKDVNISGKTDIGAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          E----QVTPLPEYTGTQAGAVVSPEQVAPLPEYTGTQSGAIVEPAQVTPLPEYTGVQSGA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            HGNHYHYIPKKD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GSKRKNIR--
                                                                                                       VTLEKDEVVTKESLEER-----GTILDVSQIASKKSEI---NSLSAPKVETLLTSTNKES
                                                                                                                                                                                                                                                                                                               TRINNVHVDGVLAGERGIGGLVWKADNSKISNSSFKGRIVNSYETKAPYNIGGLVGQLTG
                                                                                                                                                                                                                                                                                                                                                TQIAFAEQELMLKDKK - -
                                                                                                                                                                                                                                                                                                                                                                                                                 LAAALDQEQGKEKPLFDTKKVS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IVEPEQVEPPQEYTGNIEPAAPEAENPTEKAQEPKEQKQEPEKNIELRNVSDVELYSLAD
                                                                                                                                                                                                                                            INALVDKSKATITISS - - - NADSTNQTVGGLAGLVEKDALISNSYAEGNINNVKRFGSVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     E--KLKQDVNNKY-----EDNFTFYLAKKAEREVTNFTSFSNLVQAINNNLNGTYYLAA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QLSPLEMELADRYLAGQTEDDDSGSDHSKPSDKEVTH-TFLGHRIKAYGKGLDGKPYDTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LKYR-HVEEDGL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IVKPAQVTPLPEYTGTQSGAIVEPEQVTPSPEYTGVQAGAIVEPEQVASLPEYTGSQAGA
   PSEASKEEEKESDDFIDSLPDYGLDR--ATLEDHINQLAQKANIDPKYLIFQPEGVQFYN
                                     DFSKVKDYQASRALAYKNIEKLLPFYNKATIVKYGNLVKEDSTLYEKEILSAVMMKDNEV
                                                                    DLSQAEWQQAQELLAKKNA-
                                                                                                                                        I-IHSAEEVQKALAEGRFATPDGYIFDPRDVLAKETFVWKDGSFSIPRADGSSLRTINKS
                                                                                                                                                                                                        -VVPYSWLTRDQIATIKYVMQHPEVRPDIWSKPGHEESGSVIPNVTPLDKRAGMPN--WQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --PQDEVLSGR--VAKPELLYKETSIETEIAYGEQIQENPDLAEGTVRVKQEGKP
                                                                                                                                                                                                                                                                             -EPRLAVDVSSLPMHAGNATYDTG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --- NGGYHPAPPRPND----ASQNKHQRDE-FKGKTFKELLD-QLHRL-D
                                                                                                                                                                                                                                                                                                                                                                                                                                                     -SLNANEVELENG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEVAAVNEAKROGRYT-TDDGYIFSPTDIIDDLG----DAYLVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -TKQQIAEQVAKGTKEAKEKGL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -LSPSELAAAQAYWSQKQGRGARPSDYRPTP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   b; Score 143.5; DB 2;
b; Pred. No. 0.014;
166; Mismatches 328;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --VTPNP--
                                                                                                                                                                                                                                                                                                                                                                                                                   ----RKVTKDGK--VGYMMPKDGKDYFYARDQLDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --IFEP-TQVIKSNAFGYVVPHGDHYHIIPRS
                                                                                                                                                                                                                                                                                                                                              -HYRYDIVD---
                                                                      -GDATDTDK---PKEKQQADKSNENQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                    --ASSYIKGRETGKLEGSKDG
                                                                                                                                                                                                                                                                            --SSFVIPHIDHIH--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1861;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       353;
                                                                                                                                                                                                                                                                                                                                                                                 ANEANNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -GQADE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - AQVA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GQ
                                                                                                                                                                                                                                                                                                                                                 -TG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       424
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   295
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      89
     807
                                      1057
                                                                                                                                                                           945
                                                                                                                                                                                                                                                                                                                                                                                 770
                                                                                                                                                                                                                                                                                                                                                                                                                  529
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        640
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   142
                                                                       749
                                                                                                                                         707
                                                                                                                                                                                                                                              887
                                                                                                                                                                                                                                                                                                                830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            261
                                                                                                                                                                                                                                                                                                                                                 555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       56;
```

```
RESULT 5
PCT-US93-07261-1:
; Sequence 11, A;
; GENERAL INFORI
; TITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                           QУ
                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Вр
                                          DЬ
                                                                      QУ
                                                                                                     Db
                                                                                                                                  Qу
                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                      DЪ
            VΩ
                                                                                                                                                                                                                                                                                                                                                                                                         ; MOLECULE TYPE: PCT-US93-07261-11
                                                                                                                                                                                                                                                                                                                                                              Best
                                                                                                                                                                                                                                                                                                                                                 Matches
                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 07,
FILING DATE: 07-AUG-1992
ATTORNEY/AGENT INFORMATION:
NAME: Blasdale, John H. C.
REGISTRATION NUMBER: 31,89
REFERENCE/DOCKET NUMBER: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1058
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CORRESPONDENCE ADDRESS:
ADDRESSEE: John H. C. Bla
STREET: One Giralda Farms
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE: Microsof
CURRENT APPLICATION D
APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1114 NHSSIVNEVLPDLKAVD 1130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER OF
                                                                                                                                                                  107
                                            227
                                                                                                      167
                                                                                                                                                                                              136
                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: an
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY: 2IP: 079
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MPUTER KEALFLE TROPPY disk
MEDIUM TYPE: Floppy disk
COMPUTER: Apple Macintosh
OPERATING SYSTEM: Macintosh 6.0.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FILING DATE:
                                                                                                                                                                                                                            64
                                                                                                                                                                                                                                                                                                                    27
                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                   KHHMG
                                                                                                    KLNAQ
                                                                     GDAY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ITDIA
                                         GDGYEEIVETKFYGMRENALGELD-EYEERYEKKRYYLKEDGEG----DLK----
RKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHRLDL
; ; | | ; | ; | ; | ; | ; | ; |
                                                                                                                                  HLSKE
                                                                                                                                                                 KKIVPKKPESVEKDLKEMELKEKEFIKQHLKDYEERKEKRRNWILRSLRRDKLREIEQLE
                                                                                                                                                                                              -ΥΥΥΥ
                                                                                                                                                                                                                            KEKE-
                                                                                                                                                                                                                                                         VTSHG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KNGELVTYDIKTLQQIN 824
                                                                                                                                                                                                                                                                                      KEALKOKTEKNEKARNALKEKKLKEOKKNDAOKAKDLTKKESODSSSEKSLKEKVNGEAL
                                                                                                                                                                                                                                                                                                                                               174;
                                                                                                                                                                                                                                                                                                                                                              Si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Madison
                                                                                                                                                                                                                                                                                                                                                                                                                                                   تو
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RATION NUMBER: 31,895
ICE/DOCKET NUMBER: DX0
INICATION INFORMATION:
NE: 201-822-7398
: 201-822-7039
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ORMATION:
[NVENTION:
SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      mino
                                                                      -LVP---HGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPAPGR
                                                                                                                                                                                              LKPGSKRKNIR--
                                                                                                                                                                                                                                                                                                                 SATKDNQIAYIDDSKGKAKAPKTN-----KTMDQISAEEGISAEQIVVKITDQGY 81
                                                                                                                                                                                                                                                                                                                                                              milarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     940-1000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 New
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Application PC/TUS9307261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LESAINELKERRASRRPMMVKMQRGMKDEVDEWIKKYDDEQAEKNGTKDEEIKDK
                                                                                                                                  EVAAVNEAK - - -
                                                                                                                                                                                                                                                        DHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEILDG--YVIKVNGN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1588 amino acids
                                                                                                                                                                                                                                                                                                                                              3.3%; Score 142.5; DB.larity 20.0%; Pred. No. 0.014; Conservative 120; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Jersey
                                                                                                                                                                                                                                                                                                                                                                                                                                                      acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                19930805
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    MBER: US 0'
07-AUG-1992
                                                                                                                                                                                                                                                                                                                                                                                                                       protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PfEMP3 MALARIA ANTIGEN,
23
                                                                                                                                                                                            --TKQQIAEQVAKGTKEAKEK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PCT/US93/07261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Blasdale
                                                                                                                                                                                                                           -NKETLKKKELENOKEKEEKNKIKDNNDEALKNKGNDKDD 106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  07/927,531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DX0288K
                                                                                                                                  -RQGRYTTDDGYIFSPTD-
                                                                                                                                                                                                                                                                                                                                                                            DB 5;
                                                                                                                                                                                                                                                                                                                                                341;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ANALOGS, ANTIBODIES AND USES THEREO
<del>..</del>
                                                                                                                                                                                                                                                                                                                                                                            Length 1588;
                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                              --GLAQVA 175
                                                                                                                                    -IIDDL
                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                      226
                                                                                                                                                                   166
                                                                                                                                                                                                                                                                                       63
                                                                         266
               326
                                                                                                                                    211
                                                                                                                                                                                                                                                         135
                                                                                                                                                                                                                                                                                                                                                  38;
```

PRESCHENCE OF THE STATE OF THE	04 07 07 09 09 09 09 09 09 09 09 09 09 09 09 09
US93- US93- TITI NUMBER CORF CORF CORF CORF CORF CORF CORF COR	273 327 330 382 382 3417 417 472 493 552 575 611 623 649 703
3-07261-16 3-07261-16 3-07261-16 RAL INFORMATION: PfEMP3 MALARIA ANTIGEN, ANALOGS, ANTIBODIES AND USES THEREOF INVENTION: PfEMP3 MALARIA ANTIGEN, ANALOGS, ANTIBODIES AND USES THEREOF MAER OF SEQUENCES: 23 RRESPONDENCE ADDRESS: 23 RRESPONDENCE ADDRESS: 25 RADISESSEE: John H. C. Blasdale STREET: One Giralda Farms STATE: New Jersey COUNTRY: Madison REDIUM TYPE: Floppy disk MCDIUM TYPE: Floppy disk CONUTER READABLE FORM: Macintosh DPERATING SYSTEM: Macintosh PREDIUM APPLICATION DATA: REPULCATION NUMBER: PCT/US93/07261 FILING DATE: 19330805 IOR APPLICATION NUMBER: US 07/927,531 REPULCATION NUMBER: US 07/92	XYRHVEEDGLIFEPTQVIKSN-AFGYVVPHGDHYHIIPRSOLSPLEMELADRYLAG 381

```
; TYPE: amino acid
; TOPOLOGY: linear
; MOLECULE TYPE: peptide
; ORIGINAL SOURCE:
; ORGANISM: Plasmodium f
; STRAIN: Malayan Camp
PCT-US93-07261-16
                                                                    Db
                                                                                                                                  В
                                                                                                QУ
                                                                                                                                                                 Qγ
                                                                                                                                                                                                   Вр
                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match 3.3%; Score 142.5; DB 5; Best Local Similarity 20.0%; Pred. No. 0.015; Matches 174; Conservative 120; Mismatches 341;
                                   735
   750
                                                                                                                                  649
                                                                                                                                                                                                                                                                                                   522
                                                                                                                                                                                                                                                                                                                                   493
                                                                                                                                                                                                                                                                                                                                                                                                   436
                                                                                                                                                                                                                                                                                                                                                                                                                                   417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  267
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     27
                                                                                                                                                    PGHEES(
                                                                                                                                                                                                                             TYDTGS
                                                                                                                                                                                                  EYD-
  AKGKEVTNKAHEN-
                                PKEKQQ
                                                                TELAK-
                                                                                                DVLAKE
                                                                                                                                                                                                                                                                                         YARDQLD----LTQIAFAEQELML-KDKKHYRYDIVDTGIEPRLA--VDVSSLPMHAGNA
                                                                                                                                                                                                                                                                                                                                                                                           ---DGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVK-- 471
||:| :| : :| : :| | | | | | ::|| | :
ENPDGEPLNTPEIHVIRPSDL--MDK-GENKSAGHPFKYQPTKGLKEYEESHVSKDYQLE 492
                                                                                                                                  P-HENL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GDAY--LVP---HGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDYRPTPAPAPGR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KLNAQLESAINELKERRASRRPMMVKMQRGMKDEVDEWIKKYDDEQAEKNGTKDEEIKDK
                                                                                                                                                                                                                                                                 SREYQL
                                                                                                                                                                                                                                                                                                                                   HEPPTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DSMD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QTEDDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    <u>۲</u> - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHRLDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KYRHVEEDGLIFEPTQVIKSN-AFGYVVPHGDHYHIIPRSQLSPL----EMELADRYLAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GDGYEEIVETKFYGMRENALGELD-EYEERYEKKRYYLKEDGEG----DLK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HLSKEEVAAVNEAK - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KKIVPKKPESVEKDLKEMELKEKEFIKQHLKDYEERKEKRRNWILRSLRRDKLREIEQLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VTSHGDHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEILDG--YVIKVNGN---- 135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KHHMGSATKDNQIAYIDDSKGKAKAPKTN----KTMDQISAEEGISAEQIVVKITDQGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -YYVYLKPGSKRKNIR----TKQQIAEQVAKGTKEAKEK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEKE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KEALKOKTEKNEKARNALKEKKLKEOKKNDAOKAKDLTKKESODSSSEKSLKEKVNGEAL 63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --DVEEKLEETGYGFREKFPTTRILVKRKRNKEQKKLKEDKEKKLIAAEEPDDEKKIKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             : Plasmodium falciparum
Malayan Camp
16
                               ADKSNENQQPSEASKEEEKESD 762
                                                                                         TFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELL - - AKKNAGDATDTDK
                                                                                                                           GSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFAT-----PDGYIFDPR 676
                                                                                                                                                                                                                              SFVIPHIDHIHVVPYSWLTRDQIATIKYVMQHPEVRPD-----
                                                                                                                                                                                                                                                           DNEGPSTLKEYDQTELAKGKDITNKPHESVDEYDQTELAKGKDITNKP-HESVD 610
                                                                                                                                                                                                                                                                                                                             ----AKGQADELAAALDQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SGSDHSKPSDKEVTHTF-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ----SKVNGKKLKSTFNPFKRRRNKLKERKMQELHKFKKNYKKYQKLLEREKR 435
                                                                -GKEVTNKARENLEEYNETDLA--
-LEEYNETD 770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -NKETLKKKELENQKEKEEKNKIKDNNDEALKNKGNDKDD
                                                                                                                                                                                              -OSELAKGKDITNKPHESVDEYDOTELAKGKEVTNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---RQGRYTTDDGYIFSPTD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ------LGHRIKAYGKGL-----
                                                              --KGKEVTNKARENLEEYNETDL 749
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1663;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -----IIDDL 211
                                                                                                                                                                                                                             ----IWSK 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GLAQVA 175
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             416
                                                                                                                             702
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             329
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             106
```

```
RESULT 7
US-08-596-291-3
                                                                                                                                                                                       80
                                                                                                                                                                                                                      멍
                                                                                                                                                                                                                                                   δÔ
                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                          δÃ
                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                            ; TOPOLOGY: 1; MOLECULE TYPE: US-08-596-291-3
                                                            δÃ
                                                                                            рь
γQ
                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: 617/720-3500
TELEFAX: 617/720-2441
TELEX: 92-1742 EZEKIEL
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
LENGTH: 2465 amino acids
                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                 Best
                                                                                                                                                                                                                                                                                                                                                                            Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PRIOR APPLICATION DATA:
APPLICATION NUMBER: US 08/115
FILING DATE: 01-SEP-1993
ATTORNEY/AGENT INFORMATION:
NAME: GATES, EDWARD R.
REGISTRATION NUMBER: 31,616
REFERENCE/DOCKET NUMBER: LO46
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                        1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE: PatentIn Rel CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
                                                                                                                                                                                                                                                                                    1422
                                                                                                                                                                                        125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release
                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: FILING DATE: 09-AUCLASSIFICATION: 43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESSEE:
                                                                                                                                                                                                                                                     65
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREET:
                                                                                                                                                                                                                                                                                                                  9
                                                                                                                                                                                                                                                                                    GQVVHLLLEK--GQSPTSKEHVPVTPQCTLSDQNA---QGQGPEKVKKTTQVKDYSFVTE
                                                                                                                                                                                                                       ENTFEVKLFKNSSGLGFSFSRED--NLIPEQINASIVRVKKLFAGQPAAESGKIDVGDVI
                                                                                                                                                                                                                                                                                                                GSVAAILLATHIGSYQLGKHHM----GSATKDNQIAYIDDSKGKAKAPKTNKTMD-QISAE
                                                                                                                                                                                        LDGYVIKVNGNYYVYLKPGSKRKNIRT-
RPTPAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKE
                              PANISNSTWSSALHQTLSNMVSQAQSHHEAPK---SQEDTICTMFYYPQKIPNKPEFEDS
                                                                                             PAQVLPNSSKDSSQPSCVEQSTSSDENEMSDKSKKQCKSPSRRDSYSDSSGSGEDDLVTA
                                                                                                                                                                                                                                                    EGISAEQIVVKITDQGYVTSHGDHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEI 124
                                                               PTDIIDDLGDAYL-
                                                                                                                           IAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAK-----RQGRYTT--
                                                                                                                                                         L----KVNG---ASLKGLSQQEVISALRGTAPEVFLLLCRPPPGVLPEIDTALLTPLQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3, Application US/08596291
3, 5821075
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION:
                                                                                                                                                                                                                                                                                                                                             176; Conservative 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       02210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    BOSTON
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INVENTION: CARL-HENRIK INVENTION: PRIMARY ST
                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MASSACHUSETTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  600 ATLANTIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GONEZ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CLAESSON-WELSH,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     USA
                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 WOLF,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            09-AUG-1996
                                                                                                                                                                                                                                                                                                                                                                                                                            protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LEONEL JORGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GREENFIELD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYROSINE PHOSPHATASES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIMARY STRUCTURE AND FUNCTIONAL EXPRESSION OF NUCLEOTIDE SEQUENCES FOR NOVEL PROTEIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/596,291
                                                              - VPHGNHYHY I PKKDLSPSELAAAQAYWSQKQGRGARPSDY
                                                                                                                                                                                                                                                                                                                                              114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  08/115,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LENA
                                                                                                                                                                                                                                                                                                                                                Score 133; DB 2
Pred. No. 0.16;
.4; Mismatches 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LO461/7000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SACKS, P.C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Version
                                                                                                                                                                                                                                                                                                                                                  322;
                                                                                                                                                                                                                                                                                                                                                                               2;
                                                                                                                                                                                                                                                                                                                                                                              Length 2465;
                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                              -DDGYIFS
                                                                                                                                                                                                                                                                                                                                                    272;
                                                                                                                                                                                            -KQQ 154
                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                               1646
                                                                                                                                                                                                                                                                                     1476
                                                                                                                                                                                                                           1534
                                                                                                                                                              1586
                                     1703
                                                                                                                              203
```

```
QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                   RESULT 8
US-09-100-804-3
                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                            Patent No.
                                                                                                                                                                                                                                                                                                                                                 GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1704
                                                                                                                                     COMPUTER
MEDIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1954
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1874
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1849
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1789
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2046
                                                                                     CURRENT
                                                                                                                                                                                                                                    CORRESPOND
                                                                                                                                                                                                                                                 NUMBER
                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                     PRIOR APPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        374
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         480
                                                                                                                                                                                                                                                                                                                                                                                                                                                           746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           656
                                                                                                                                                                        STATE: N
COUNTRY:
                                                                                                                                                                                                 STREET:
                                                                                                                                                               ZIP:
APPLICATION NUMBER: US 08/596,291 FILING DATE: 09-AUG-1996 APPLICATION NUMBER: US 08/115,573
                                                            APPLICATION NUMBER: FILING DATE:
                                                                                                SOFTWARE
                                                                                                                         COMPUTER
                                                  CLASSIFI
                                                                                                              OPERATIN
                                                                                                                                                                                                                         ADDRESSE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | : |
NPSPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LADRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WLTRDQIATIKYVMQHPEVRPDIWSKPGHEESGSVI-PNVTPLDKRAGMPNWQIIHSAEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MLKDKKHYRYDIVDTGI----EPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GFSL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        {\tt AAALDQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQEL}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RIGCY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NWTPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TTDQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QLLDV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRITQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   D-EEAQNLLNENNAAGDSCGPGTLKMNGKLSEERTEDTDCDGSPLPEYFTEATKMNGCEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INEISYPKGKCST---YQIKGSPNLTLPKESYIQEDDIY--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VQK-ALAEGRFATPDGYIF--DPRDVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQA::::|::| | | :::|:::|
                                                                                                                                                                                                                                                                                                                                                                                                                                     YCEEKVKSESLIQKPQEKKTDDDEITWGNDELP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EWQQAQELLAKKN-AGDA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PYDTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --KRSAVSA-
                                                                                                                                                                                                                                                            OF,
                                                                                                                                                                                                                                                                                      OF,
                                                                                                                                                                                                                                                                                                                                                                      ω
                                                                                                                                                                                                                                                                       ^{\mathrm{OF}}
                                                                                                                                                                                                                                                                                                                                                 INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                            -ENQQPSEA--SKEEEKESDD-----FIDSLPDYGLDRATLED 780
                                                                                                                                                                                                                                                   OH,
                                                                                                                                                                                                                                                                                                                                                             60
                                                                                      A
                                                                                                                                                               02210
                                                                                                                                                                                                 BOSTON
                                                                                                                                                                                                                                                     I: HELDIN, CARL-HENRIK
INVENTION: PRIMARY STRUC
INVENTION: EXPRESSION OF
INVENTION: TYROSINE PHOS
                                                                                                                                                                                                                                                                                                                                                           Application US/09100804
066472
                                                                                                                                      TYPE:
                                                                                                                                                                         MASSACHUSETTS
USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                THYVNGVSTQGMTLEEVNRALDM-SLPSLVLKATR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKGQADEL 479
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VHDVIQDPAKSDGRLKPGDRLIKVNDTDVTNMTHTDAVNLLRAASKTVRLVIGRV 1848
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -KNDLE-NHLEDFELEVELLITLIKSEKASLGFTVTKGN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      HRLDLKYRHVEEDGLIFE-PTQVIKSN--AFGYVVPHGDHYHIIPRSQLSPLEME
                                                                                     PATENTIN Release #1.0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --CGGHDSLYQVVYIS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NTNVASFATGH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LAGQTEDDDSGSDHSKPSDK----
                                                                                                            IG SYSTEM:
                                                                                                                                                                                                                                                SEQUENCES:
                                                                                                                                                                                                                                     ENCE
                                    ICATION DATA:
                                                  CATION:
                                                                                                                                                 EADABLE
                                                                                                                                                                                                               600
                                                                                     DABLE FORM:
DE: Floppy disk
IBM PC compatible
PC-DOS/MS-DOS
PC-Dease #1.0,
                                                                                                                                                                                                                                                                                                                        GONEZ,
SARAS,
                                                                                                                                                                                                                         WOLF,
                                                                                                                                                                                                             ATLANTIC
                                                                                                                                                                                                                                   ADDRESS:
                                                                                                                                                                                                                                                                                                                        JAN
                                                                                                                                                                                                                                                                                                                                     LEONEL JORGE
                                                                                                                                                                                                              GREENFIELD
NTIC AVENUE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PDMA--PGQSYQPQS----
                                                                                                                                                                                                                                                           PRIMARY STRUCTURE AND FUNEXPRESSION OF NUCLEOTIDE TYROSINE PHOSPHATASES
                                                                                                                                                                                                                                                 34
                                                                           US/09/100,804
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -PKSTKGNGSYSVGSCSQPALTPNDSFSTV--
                                                                                                                                                                                                                           δυ
                                                                                                                                                                                                                           SACKS,
                                                                                                 Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -EVTHTFLGHRIKAYGKG----LDGK 419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---ESASSSMDKYHIHHISEPTRQE
                                                                                                                                                                                                                           P.C
                                                                                                                                                                                                                                                                                                                                                                                                                                      - IERTNHED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -TDTD---KPKEKQQADKSN----
                                                                                                                                                                                                                                                                                      FUNCT IONAL
                                                                                                                                                                                                                                                                        SEQUENCES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --DDSQEAEVIQSLLDVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --DINPRSVAAIEGNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --NDLPVVPSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -KLTCNKEEL
                                                                                                                                                                                                                                                                           FOR
                                                                                                                                                                                                                                                                           NOVEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     - AGEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1905
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2045
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            655
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1953
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            596
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            539
                                                                                                                                                                                                                                                                            PROTEIN
```

```
δõ
                                                                                                 망
                                                                                                                            Ş
                                                                                                                                                                                          Š
                                                                                                                                                                                                                           멍
                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                        멍
                                                                                                                                                                                                                                                                                                                    8
      20
                                     В
                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ₽
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δð
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ; MOLECULE TYPE: US-09-100-804-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION FOR SEQ ID NO: 3
SEQUENCE CHARACTERISTICS:
LENGTH: 2465 amino acids
TYPE: amino acid
TOPOLOGY: linear
                                                                                                                                                                                                                                                                                       1789
                                     1954
                                                                                                  1906
                                                                                                                                                             1874
                                                                                                                                                                                                                           1849
                                                                                                                                                                                                                                                                                                                                                   1746
                                                                                                                                                                                                                                                                                                                                                                                                                  1704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1535
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1477
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1422
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING PRIOR APP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENCE/DOCKET NUMBER: 10
TELECOMMUNICATION INFORMATION:
TELEPHONE: 617-720-3500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ATTORNEY/AGENT INFORMATION:
NAME: GATES, EDWARD R.
                                                                                                                                540
                                                                                                                                                                                                                                                         420
                                                                                                                                                                                                                                                                                                                       374
       656
                                                                                                                                                                                                                                                                                                                                                                                    317
                                                                                                                                                                                                                                                                                                                                                                                                                                                  257
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        125
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     о
(3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICATION NUMBER: FILING DATE: 01-SE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME: GATES, EDWARD REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                           GFSL---CGGHDSLYQVVYIS-
VQK-ALAEGRFATPDGYIF--DPRDVLAKETFVWKDGSFSIPRADGSSLRTINKSDLSQA
                                                                                             QLLDVIHYVNGVSTQGMTLEEVNRALDM-SLPSLVLKATR-
                                                           WLTRDQIATIKYVMQHPEVRPDIWSKPGHEESGSVI-PNVTPLDKRAGMPNWQIIHSAEE
                                                                                                                        MLKDKKHYRYDIVDTGI----EPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYS
                                                                                                                                                                                     AAALDQEQGKEKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQEL
                                                                                                                                                                                                                                                   PYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQYELDEVANWVKAKGQADEL
                                                                                                                                                                                                                                                                                                                 LADRYLAGQTEDDDSGSDHSKPSDK--
                                                                                                                                                                                                                                                                                                                                                NWTPL-KNDLE-NHLEDFELEVELLITLIKSEKASLGFTVTKGN-
                                                                                                                                                                                                                                                                                                                                                                           LLDQLHRLDLKYRHVEEDGLIFE-PTQVIKSN--AFGYVVPHGDHYHIIPRSQLSPLEME
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PAQVLPNSSKDSSQPSCVEQSTSSDENEMSDKSKKQCKSPSRRDSYSDSSGSGEDDLVTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GQVVHLLLEK---GQSPTSKEHVPVTPQCTLSDQNA----QGQGPEKVKKTTQVKDYSFVTE
                                    -- KRSAVSA-
                                                                                                                                                                                                                        PRITONTNVASFATGH-
                                                                                                                                                                                                                                                                                 RIGCYVHDVIQDPAKSDGRLKPGDRLIKVNDTDVTNMTHTDAVNLLRAASKTVRLVIGRV 1848
                                                                                                                                                                                                                                                                                                                                                                                                                  NPSPLP-
                                                                                                                                                                                                                                                                                                                                                                                                                                         RPTPAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKGKTFKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PANISNSTWSSALHQTLSNMVSQAQSHHEAPK---SQEDTICTMFYYPQKIPNKPEFEDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EGISAEQIVVKITDQGYVTSHGDHYHFYNGKVPYDAIISEELLMTDPNYRFKQSDVINEI 124
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GSVAAILLATHIGSYQLGKHHM----GSATKDNQIAYIDDSKGKAKAPKTNKTMD-QISAE 64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LDGYVIKVNGNYYVYLKPGSKRKNIRT - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ENTFEVKLFKNSSGLGFSFSRED--NLIPEQINASIVRVKKLFAGQPAAESGKIDVGDVI 1534
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PTDIIDDLGDAYL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                176;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ING DATE: 01-SEP-APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---KVNG----ASLKGLSQQEVISALRGTAPEVFLLLCRPPPGVLPEIDTALLTPLQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.08; ilarity 19.98; Conservative 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    617-720-2441
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           01-SEP-1993
                                                                                                                                                                                                                                                                                                                                                                                                                 --PDMA--PGQSYQPQS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PCT/US94/09943
                                -PKSTKGNGSYSVGSCSQPALTPNDSFSTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        - VPHGNHYHYIPKKDLSPSELAAAQAYWSQKQGRGARPSDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             114;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score 133; DB 3;
Pred. No. 0.16;
4; Mismatches 32;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LO461/7003
                                                                                                                                                                                                                                                                                                                  -EVTHTFLGHRIKAYGKG--
                                                                                                                                                                                                                                                                                                                                                                                                            -ESASSSSMDKYHIHHISEPTRQE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           322;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -RQGRYTT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2465;
                                                                                                                                                       -DINPRSVAAIEGNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                           -NDLPVVPSS
                                                                                                                                                                                                                     -KLTCNKEEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -DDGYIFS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           272;
                                                                                                                                                                                                                                                                                                               --LDGK
                               AGEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -KQQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                               0
                                                                                                                                                                                                                    1873
                                                                                                                                                                                                                                                                                                                419
```

1905

37;

373

316

1703

256

1646

203

1586

```
RESULT 9
US-08-296-791-3
; Sequence 3, A
                                                       Qy
                                                                                                                                                         Qy
       Dр
                                                                                                            Db
                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ;
US-08-296-791-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 910 2772
INFORMATION FOR SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INVENTION: Haemophi
TITLE OF INVENTION: Protest
NUMBER OF SECTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         REGISTRATION NUMBER: 31,801
REFERENCE/DOCKET NUMBER: A-
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0,
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCE CHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATTORNEY/AGENT INFO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE MEDIUM TYPE: F1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER OF S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2046
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2105
       642
                                                        161
                                                                                                           582
                                                                                                                                                             123
                                                                                                                                                                                                               522
                                                                                                                                                                                                                                                                                                                    462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DAT
                                                                                                                                                                                                                                                                 96
                                                                                                                                                                                                                                                                                                                                                                        44
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CITY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESSEE
                                                                                                                                                                                                                                                                                                              DNKGSLKVGDGTVILKQQTNGSGQHAFASVGIVSGRSTLVLNDDKQVDPNSIYFGFRGGR
 NHINNERMNGENGYFGEEEGKNNGNLNVTFKGKSE-
                                                                                                   YAFRRIKDGGQLYLNLENYTYYALRKGASTRSELPKNSGESNENWLYMGKTSDEAKRNVM
                                                                                                                                                                                                         LDLNGNSLTFDHIRNIDDGARLVNHNMTNASNITITGESLITDPNTITPYNIDAPDEDNP
                                                                                                                                                                                                                                                                                                                                                                        DSKGKAKA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            D-EEAQNLLNENNAAGDSCGPGTLKMNGKLSEERTEDTDCDGSPLPEYFTEATKMNGCEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YCEEKVKSESLIQKPQEKKTDDDEITWGNDELP---IERTNHED 2145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  : : : | : | | | | | | | | | | : : : | : : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | : | :
                                                                                                                                                                                                                                                                                                                                                                                                                     l Simi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EWQQAQELLAKKN-AGDA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -ENQQPSEA--SKEEEKESDD-----FIDSLPDYGLDRATLED 780
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RY: United States 94111-4187
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      6245337
                                                                                                                                                        -EILDG---YVIKVNGNYYVYLKPGSKRKNI--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      San
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/08296791
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             C
                                                                                                                                                                                                                                                              ·VPYDAI:---
                                                                                                                                                                                                                                                                                                                                                                                                                   3.0%;
ilarity 17.5%;
Conservative 11:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1541 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        n Francisco
alifornia
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ON NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Flehr, Hohbach, Test, Albritton
Embarcadero Center, Suite 3400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        277299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   25-AUG-1994
N: 435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ID NO:
                                               -GTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFSPTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Richard F.
                                                                                                                                                                                                                                                                                                                                                                 -PKTNKTMDQISAEEGISAEQIVVKITDQGYVTSHGDHYHFYNGK 95
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Haemophilus Adherence and Penetration
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US/08/296,791
                                                                                                                                                                                                                                                                                                                                                                                                                        111;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ω
--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Joseph
                                                                                                                                                                                                                                                                                                                                                                                                                  Score 131.5; Depred. No. 0.1; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               A-59941/RFT/RMS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Version #1.25
                                                                                                                                                                                                                                 -ISEELLMTDPN----YRFKQSDVIN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --TDTD---KPKEKQQADKSN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                   294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ξ'n
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --DDSQEAEVIQSLLDVV
-QNRFLLTGG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Herbert
                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 1541;
                                                                                                                                                      RTKQQIAEQVA
                                                                                                                                                                                                                                                                                                                                                                                                                315;
                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                     641
                                                                                                                                                      160
687
                                                  206
                                                                                                                                                                                                                                                          122
                                                                                                                                                                                                                                                                                                                521
                                                                                                                                                                                                            581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                745
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2045
```

Φ

```
TYPE: amino acids;
TOPOLOGY: unknown
PCT-US95-10561A-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                          DЬ
                                                                                                                                    Ų
                                                                                                                                                               Db
                                                                                                                                                                                                                                                                         Дb
Дb
                         V
                                                     B
                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: Trecartin, Richard F.
REGISTRATION NUMBER: 31,801
REFERENCE/DOCKET NUMBER: FP-5
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 781-1989
TELEFAX: (415) 398-3249
TELEFAX: 910 277299
INFORMATION FOR SEQ ID NO: 3:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Matches
1098
                                                    1041
                                                                                                          1004
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          522
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              889
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 642
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                123
                                                                                                                                                                                                                     904
                                                                                                                                                                                                                                               456
                                                                                                                                                                                                                                                                          877
                                                                                                                                                                                                                                                                                                    396
                                                                                                                                                                                                                                                                                                                               831
                                                                                                                                                                                                                                                                                                                                                        345
                                                                                                                                                                                                                                                                                                                                                                                   784
                                                                                                                                                                                                                                                                                                                                                                                                            306
                                                                                                                                                                                                                                                                                                                                                                                                                                        740
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      207
                           681
                                                                               621
                                                                                                                                     561
                                                                                                                                                                960
                                                                                                                                                                                          515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        44 DSKGKAKA---
                                                                                                                                                                                                                                                                         AD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DNKGS
                                                                                                                                                                                                                                              GELEQYELDEVANWVKAKGQAD-ELAAALDQEQGKEKPLFDTKKVSRKVTKDGKVGYMMP
                                                                                                                                                                                                                                                                                                                                                                                  TVCVRSDYTGYVTCTTDKLSDKALN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LDLNG
TET-
                                                                              SKPGH
                                                                                                          QADVPSVP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LNGDLTVEKGTLFLSGRPTPHARDIAGISSTKKDPHFAENNEVVVEDDWINR - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NHINN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     YAFRR
                                                                                                                                  AVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPYSWLTRDQIATIKYVMQHPEVRPDIW
                                                                                                                                                                                                                                                                                                                              KSNAFGYVVPHGD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DYRPT
                           KETFVWKDGSFSIPRADGSSLRTINKSDLSQAEWQQAQELLAKKNAGDATDTDKPKEKQ-
                                                     AENSKQESKTVEKNEQDATETTAQ-NREVAKEAKSNVKANTQTNEVAQSG--SETKETQT
                                                                                                                                                                                  KDGKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIVDTGIEPR---
                                                                                                                                                                                                                     TDLSNKQGDKVVVTKSATGNFTLQVADKTGEPNHNELTLFDASKAQRDHLNVSLVG----
                                                                                                                                                                                                                                                                                                    SDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IIDDL----GDAYL----VPHGNHYHYI--PKKD--LSPSELAAAQAYWSQKQGRGARPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   153; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1
1
E
                                                                                                                                                                                                                                                                                                                                                                                                           -RDEFKGK---TFKELLDQLHRLDLKYRHVEEDGLIFEPTQVI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PAPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQ------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ERMNGFNGYFGEEEGKNNGNLNVTFKGKSE-----QNRFLLTGG-----TN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LKVGDGTVILKQQTNGSGQHAFASVGTVSGRSTLVLNDDKQVDPNSIYFGFRGGR 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ILDG---YVIKVNGNYYVYLKPGSKRKNI-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --VPYDAI----
                                                                              EESGSVIPNVTPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDVLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.0%; Score 131.5; llarity 17.5%; Pred. No. 0.1; Conservative 111; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                         ----NFKATTMNVT-----GNASLYSGRNVANITSNITASNKAQVHIGYKTGD 783
                                                                                                                                                              --NTVDLGAWKYKLRNV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -GTKEAKEKGLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFSPTD 206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -PKTNKTMDQISAEEGISAEQIVVKITDQGYVTSHGDHYHFYNGK 95
                                                                                                            -SNNEETARVDEAPVPPPAPAT----
 KETATVEKEEKAKVETEKTQEV-
                                                                                                                                                                                                                                                                                                                                                    -HYHIIPRSQLSPLEMELADRYLAGQTEDDDSGSDHSKP
                                                                                                                                                                                                                                                                          ---NSNNVTKYNTLTVNSLSGNG-----SFYYL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FP-59941/RFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -----YRFKQSDVIN-
                                                                                                                                                                 ----NGRYDLYNPEVEKRNQTVDTTNITTPNNI 1003
                                                                                                                                                                                                                                                                                                                                                                                    --SFNPTNLRGNVNLTESANFVLG 830
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB 5;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    294;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 1541;
 -PKVTSQVSPKQEQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---RTKQQIAEQVA 160
                                                                                                                                                                                                                                                                                                                                 ---NGHIHLNS
                                                                                                            PSETTETV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       315;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         254
                                                                                                                                                                                                                                                  514
                             739
                                                                                  680
                                                                                                             1040
                                                                                                                                                                                                                        959
                                                                                                                                                                                                                                                                             903
                                                                                                                                                                                                                                                                                                       455
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               739
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   687
                                                        1097
                                                                                                                                                                                             560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       37;
```

740

-QADKSNENQQPSEASKEEEKESDDFIDS

```
δÃ
                                                                                           망
                                                                                                                       δõ
                                                                                                                                                                              Ş
                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                ş
                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Š
                                                                                                                                                    밁
                                                                                                                                                                                                             8
                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US-09-514-302-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 11
US-09-514-302-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local S
Matches 131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: ITO, SUSUMU
TITLE OF INVENTION: GENE FOR EXTITLE OF INVENTION: ALKALINE AMERICE: 2173-105P
CURRENT APPLICATION NUMBER: US,
CURRENT FILING DATE: 2000-02-2;
EARLIER APPLICATION NUMBER: 08,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID NO 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EARLIER FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT: OZAKI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: HATADA, APPLICANT: IGARASH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: PRT
ORGANISM: Bacillus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1137
       487
                                                              444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local Sir
hes 131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         90
                                                           AKHGDHFHYIGFGELE--QYELDEV-
                                                                                                                DDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESI-HSVDKSGVT
                                                                                                                                                   DVVFNHTAQ-
                                                                                                                                                                                                                                                                 SFVEKLDYI-QELGVTHIQLLPVMSYYFSNEFESGERMLEYASTGT-
                                                                                                                                                                                                                                     PNPGQGHQPDN--
                                                                                                                                                                                                                                                                                                HYIPKKDLSPSELAAAQA--
                                                                                                                                                                                                                                                                                                                                                                                                                                            VVDTIEMVKGDRGVWS----VKLTKDNTGLDSLKGYYYH-
                                                                                                                                                                         DLKYRHVEEDGLIFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEMELADRYLAGQTE
                                                                                                                                                                                                                                                                                                                         KAAIVDIGSIGPE----LDYADIPGFEKREDTIIYEVHVRDFTSDPNIGEDLKAQFGTFA
                                                                                                                                                                                                                                                                                                                                                                                                             NYRFKQSDVINEILDGYVIKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TNKTMDQISAEEGISAEQIVVKIT - - DQGYVTSHGDHYHFYNGKVPYDAIISEELLMTDP 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IDEMYAYDGKLGAEL - -
                          --DGFRFDMMGDHDAESIQIAFDEAKKLNPNIVMIGEGWVTFAGDEGEPVQAADQQWMQY
                                                                                                                                                                                                                                                                                                                                                                                     -YEITHGDVTNLALDPY--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VKKTYGYIGSVAAILLATHIGSYQLGKHHMGSAT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ETVQPQAEPAREN-DPTVNIKEPQSQTNTTADT
                                                                                          -DADGTPRT
                                                                                                                                                                                                          -NYNWGYDPHNYFSLSGMYSENPEDP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               4,
                                                                                                                                                                                                                                                                                                                                                    -GLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFS--PTDIIDD--LGDAYLVPHGNHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    893
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   , Application US/09514302 .6338959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ARA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KAWAI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       IGARASHI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           2.9%; Sc.
larity 18.7%; Pr.
Conservative 74;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Katsutoshi
 QGKEKPLFDTKKVSRKVTKDGKVGYMMPKDG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Katsuya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Yuji
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     sp.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kazuaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2000-02-28
                                                                                                                                                                                                                                   -GGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHR-
                                                                                                                                                  -VHIFEDLVP--NYYHFM-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/09/514,302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         08/952,084
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ENZYME HAVING
ALPHA-AMYLASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 129; DB
Pred. No. 0.071
                                                                                                                                                                                                                                                                                              YWSQKQGRGARPSDYRPTPAPAPGRRKAPIPDVT
                                                                                       SFGGGRLGTTHEMSRRVLV--DSIKHWVDEYKV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -HEDGTATLKVWSPKADNVSVVLYD---KVDQNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1168
                                                          ANWVKAKGQADELAAALDQE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BOTH ALKALINE ACTIVITIES
                                                                                                                                                                                                       -ELRIKEFKNLINEIHKRDMGVVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             218;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --KDNQIAYIDDSKGKAKAPK
                                                                                                                                                                                                                                                                                                                                                                                 -- AKSMAAWNNEAGDKVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 893;
-KDYFYARDQLDLTQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PULLULANASE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Gaps
                             471
                                                                                                                  443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    134
                                                         486
                                                                                      413
                                                                                                                                                                           384
                                                                                                                                                                                                                                                                                                                                                                                                               169
                                                                                                                                                                                                                                                                 302
                                                                                                                                                                                                                                                                                                                         257
                                                                                                                                                                                                                                                                                                                                                     223
                                                                                                                                                                                                                                                                                                                                                                                  201
                                                                                                                                                                                                                                                                                                                                                                                                                                           169
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AND
```

```
RESULT 12
US-09-514-302-2
; Sequence 2, P
    DЬ
                              QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                 QУ
                                                            Db
                                                                                      Qy
                                                                                                                    DЬ
                                                                                                                                             QУ
                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                             VΩ
                                                                                                                                                                          Db
                                                                                                                                                                                                                                  Вр
                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                    QΥ
                                                                                                                                                                                                                                                                                                                                                 뫄
                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; ORGANISM: Bacillus sp. US-09-514-302-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Вþ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILE REFERENCE: 2173-105P
FILE REFERENCE: 2173-105P
CURRENT APPLICATION NUMBER: US/09/514,302
CURRENT FILING DATE: 2000-02-28
EARLIER APPLICATION NUMBER: 08/952,084
EARLIER FILING DATE: 1997-11-10
NUMBER OF SEQ ID NOS: 14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: 1TO, SUSUMU
TITLE OF INVENTION: GENE FOR ENZYME HAVING
TITLE OF INVENTION: ALKALINE ALPHA-AMYLASE
FILE REFERENCE: 2173-105P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH: 19
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
    1420
                                                                                                                    1348
                                                                                                                                                                           1303
                                                                                                                                                                                                                                                                                                                                                 1180
                                                                                                                                                                                                                                                                                                                                                                                                       1135
                                                                                                                                                                                                                                 1247
                                                                                                                                                                                                                                                                                         1215
                                385
                                                                                                                                              276
                                                                                                                                                                                                                                                             170
                                                                                                                                                                                                                                                                                                                     112
                                                                                                                                                                                                     224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         472
                                                                                                                                                                                                                                                                                                                                                                            54
                                                                                                                                                                                                                                                                                                                                                                                                                                  μ
                                                                                                                                                                                                                                                                                                                                           -DADGTPRT-
                          DDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESI-HSVDKSGVT 443
                                                           DVVFNHTAQ --
                                                                                  DLKYRHVEEDGLTFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLEMELADRYLAGQTE
                                                                                                                                                                       SFVEKLDYI-QELGVTHIQLLPVMSYYFSNEFESGERMLEYASTGT-
                                                                                                                                                                                                    HYIPKKDLSPSELAAAQA--
                                                                                                                                                                                                                              KAAIVDIGSIGPE----LDYADIPGFEKREDTIIYEVHVRDFTSDPNIGEDLKAQFGTFA 1302
                                                                                                                                                                                                                                                                                                               NYRFKQSDVINEILDGYVIKVNGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEK--
                                                                                                                                                                                                                                                                                                                                                                      TNKTMDQISAEEGISAEQIVVKIT - - DQGYVTSHGDHYHFYNGKVPYDAIISEELLMTDP 111
                                                                                                                                                                                                                                                                                                                                                                                                                               VKKTYGYIGSVAAILLATHIGSYQLGKHHMGSAT-----KDNQIAYIDDSKGKAKAPK 53
                                                                                                                  -NYNWGYDPHNYFSLSGMYSENPEDP
                                                                                                                                             PNPGQGHQPDN---
                                                                                                                                                                                                                                                                                        -YEITHGDVTNLALDPY--
                                                                                                                                                                                                                                                                                                                                                                                                       IDEMYAYDGKLGAEL --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GQEFGR
                                                                                                                                                                                                                                                      --GLAQVAHLSKEEVAAVNEAKRQGRYTTDDGYIFS--PTDIIDD--LGDAYLVPHGNHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    YIEAHDNLTL --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IAFAEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TEAVGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                               131;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1938
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6338959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ARA,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        OTI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OZAKI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KAWAI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            2.9%;
ilarity 18.7%;
Conservative 7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TKQWRAPATEAPYKSTYMTDADGNPFVYPYFIH 622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMH----AGNA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ARASHI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    plication US/09514302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Susumu
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Katsutoshi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Katsuya
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Yuji
                                                                                                                                          --GGYHPAPPRPNDASQNKHQRDEFKGKTFKELLDQLHR-----L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Kazuaki
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --YDVIAQSIKKDPEIAENDLEIHKRIRVGNAMVLTSQGTAFLHA
                                                        -VHIFEDLVP--NYYHFM-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -TYDT---GSSFVIPHIDH 589
                                                                                                                                                                                                                                                                                                                                                                                                                                                          ; Score 129; DB; Pred. No. 0.23; 74; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                   ---HEDGTATLKVWSPKADNVSVVLYD---KVDQNE 1179
                                                                                                                                                                                                  -YWSQKQGRGARPSDYRPTPAPAPGRRKAPIPDVT
  SFGGGRLGTTHEMSRRVLV--DSIKHWVDEYKV-
                                                                                                                 --ELRIKEFKNLINEIHKRDMGVVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB 4; Length 1938;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BOTH ALKALINE PULLULANASE ACTIVITIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                            218;
                                                                                                                                                                                                                                                                                     -- AKSMAAWNNEAGDKVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                          276;
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
1458
                                                                                     384
                                                                                                                                                                                                  275
                                                                                                                                                                      1347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ω
ω
```

Query Best Match Qy Db 1 Qy	RESULT 1 US-08-86 Sequer Patent GENEH APH APH APH APH APH COI	Qy 57 Db 162	Qy 44 Db 145 Qy 48 Qy 151 Db 151 Db 157
ry Match 2.9%; Score 128.5; It Local Similarity 20.1%; Pred. No. 0.1; ches: 141; Conservative 87; Mismatches 3 KTYGYIGSVAAILLATHIGSYQLGKHHMGSATKDN	-867-941-19 -867-941-19 -867-941-19 -867-941-19 ent No. 5977337 NERAL INFORMATION: APPLICANT: LOOSMOTE, Sheena M APPLICANT: Du, Run-Pan APPLICANT: Wang, Quijun APPLICANT: Wang, Quijun APPLICANT: Wang, Quijun APPLICANT: Klein, Michel H APPLICANT: Vang, Yan-Ping APPLICANT: Wang, Quijun APPLICANT: Klein, Michel H APPLICANT: Vang, Yan-Ping APPLICANT: Klein, Michel H TITLE OF INVENTION: LACTOFERRIN RECEPTOR GENE: NUMBER OF SEQUENCES: 67 CORRESPONDENCE ADDRESS: ADDRESSE: Sim & MCBUTNEY STREET: 6th Floor, 330 University Avenue CITY: Toronto STATE: Ontario COUNTRY: Canada ZIP: MSG 1R7 COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER READABLE FORM: MEDIUM TYPE: Floppy disk COMPUTER STATION SYSTEM: PC-DOS/MS-DOS SOFTWARE: Patentin Release #1.0, Version #1 CURRENT APPLICATION DATA: APPLICATION NUMBER: US/08/867,941 FILING DATE: 03-JUN-1997 CLASSIFICATION: 435 ATTORNEY/AGENT INFORMATION: TREEFENCE/DOCKET NUMBER: 1038-681 MIS:jb TELECOMMUNICATION INFORMATION: TELEPHONE: (416) 595-1155 TELEPHONE: (416) 595-1155 TELEPHONE: (416) 595-1163 TYPE: amino acids TYPE: amino acids TYPE: amino acids TYPE: amino acid STRANNEDNESS: single TOPOLOGY: linear -867-941-19		444 AKHGDHFHYIGFGELEQYELDEV
DB 2; Length 1076; 244; Indels 231; Gaps 40 QIAYIDDSKGK 48 : :: SVAFVTKTADDIIKDGKDWGV 206 SYVTSHGDHYHFYNGKVPYDAI 101 : : 262	ES OF MORAXELLA	589 1667	ANWVKAKGQADELAAALDQE 486

```
RESULT 14
US-09-074-658-19
; Sequence 19, Applicati
; Patent No. 6184371
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VО
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           УŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                     COUNTRI.
ZIP: M5G 1R7

ZIP: M5G 1R7

COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SY
                                                                                                                                                                                                                                                   ZIP: M5G 1R7
COMPUTER READAB!
MEDIUM TYPE:
COMPUTER: IB!
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                        CURRENT APPLICATION DATA:
APPLICATION NUMBER: US
FILING DATE: 08-MAY-19
ATTORNEY/AGENT INFORMATION:
NAME: Stewart, Michael I
REGISTRATION NUMBER: 24,973
REFERENCE/DOCKET NUMBER: 1038-795
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CORRESPONDENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              551
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 316
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             266 · RRKAPI
                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
                                                                                                    CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           MMPKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          THTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DVRVSYDKQDITLRSQLTNTHCSTYPHIDKNCTPDVNKPFSVKEVDNNAYKEQHNLIKAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DYTGPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EQVAKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        FNKKMALGSTHHHINLQVGYDKFNSSLSRVEYRLA-----THQSYQKLDYTPPSNP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DDLGDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ELLDQLHRLDL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KAYKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YELDEVANWVKAKGQADEL--AAALDQ--EQGKEKPLFDTKKVSR----KVTKDGKVGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DTGIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---ETNSYADCSTTPRHI---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --PA
                                                                                                                                                                                                                                                                                                                                                                                                      Toronto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                Ontario
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Application US/09074658
84371
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPY 595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LRNEWAGWTNDNSQQNANKGTDNIYQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PDKFKPI-LGSNNKPI-CLDAYGYGHD-----HPQACNAKNSTYQNFAIKKGIEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YLAVH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               YYLVPHGNHYHYIPKKDLSPSEL---AAAQAYWSQKQGRGARPSDYRPTPAPAPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TTDPNNR--TFLIANEC--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RLIPNPLTQDSKSLLLRPGYQLNDKHYVGGVYEITKO-NYAMQDKTV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TIGPDSGYGINYAHGVFY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                PDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEF --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Run-Pan Du
Quijun Wang
Yang, Yan-Ping
Klein, Michel H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --GDHYHIIPR-
                                                                                                                                                                                                                                                                                                                                                                                                                                 6th Floor, 330 University
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --NQKTNTDKIDYQAIIDQYDKQNPNSTLKPFEKIKQSLGQEKYNKIDELGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sim & McBurney
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADDRESS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -TKEAKEKGLAQVAHLS-KEEVAAVNEAKRQGRYTTDDGYIFSPTDII
                                                                                                        435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LACTOFERRIN RECEPTOR GENES 78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DIEKSRLSNHAQANGYY-QGNNLGERIRD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --KYRHVEEDGL--IFEPTQVIKSNAFGYVVPH-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ---SGDNYFIALKDNMTINKY 729
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -SQLSPLEMELADRYLAGQTEDDDSGSDHSKPSDKEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -ANGNYEACAAGGQTKLQAKPTNVRDKVNVK
                                                                                                                                                                                                                                                                                                                                                                                                                                  Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -DEKHQKDRLGLEYVYDSKGENKWFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --PNQATVVKDDK-CKYS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      MORAXELLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --KGKTFK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               511
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     156
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        355
5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     361
```

```
RESULT 15
US-08-663-112-2
; Sequence 2, Application
; Patent No. 5849503
; GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ρy
                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                 9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QY.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            S
S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ;
TOPOLOGY:
US-09-074-658-19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TELEFAX: (416) 595-1155
TELEFAX: (416) 595-1163
INFORMATION FOR SEQ ID NO: 19:
SEQUENCE CHARACTERISTICS:
LENGTH: 1076 amino acids
TYPE: amino acid
STRANDEDNESS: single-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
      APPLICANT:
APPLICANT:
TITLE OF INTITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           207
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               266
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        102
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     148
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ω
                                                                                                                                                                                                                                                                                                                                                  DTGIEPRLAVDVSSLPMHAGNATYDTGSSFVIPHIDHIHVVPY
                                                                                                                                                                                                                                                                                                                                                                                                         KAYKDLRNEWAGWTNDNSQQNANKGTDNIYQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MMPKD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YELDEVANWVKÁKGQADEL - - AAALDQ - - EQGKEKPLFDTKKVSR - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         THTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESIHSVDKSGVTAKHGDHFHYIGFGELEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FNKKMALGSTHHHINLQVGYDKFNSSLSRVEYRLA-----THQSYQKLDYTPPSNP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KNYAAGGAINEIEY-ENVRSVEISKGANSSEYGSGALSGSVAFVTKTADDIIKDGKDWGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DVRVSYDKQDITLRSQLTNTHCSTYPHIDKNCTPDVNKPFSVKEVDNNAYKEQHNLIKAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DDLGDAYLVPHGNHYHYIPKKDLSPSEL---AAAQAYWSQKQGRGARPSDYRPTPAPAPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ISEELLMTDPNYRFKQSDVINEILDGYVIKVNGNYYVYLKPG----SKRKNIRTKQQIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QTKTAYASKNNAWVNSVAAAGKAGSFSGLIIYTDRRGQEY-KAHDD---AYQGSQSFDRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ELLDQLHRLDL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DYTGPNRLIPNPLTQDSKSLLLRPGYQLNDKHYVGGVYEITKQ-NYAMQDKTV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EQVAKG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              KTYGYIGSVAAILLATHIGSYQLGK----HHMGSATKDNQIAYI----DD-
                                                                                                                                     2, Application 5. 5849503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --AKAPKTNKTMDQISAEEGISAEQIVVKITD---QGYVTSHGDHYHFYNGKVPYDAI
 IT: WAGATSUMA,
IT: KURITA, NO.
INVENTION: MU
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -LPDKFKPI-LGSNNKPI-CLDAYGYGHD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -PAYLAVH--
                                                                                                                                                                                                                                                                                                       ETNSYADCSTTPRHI - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --TTDPNNR--TFLIANEC----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -TIGPDSGYGINYAHGVFY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2.9%;
llarity 20.1%;
Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GDHYHIIPR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -NQKTNTDKIDYQAIIDQYDKQNPNSTLKPFEKIKQSLGQEKYNKIDELGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -TKEAKEKGLAQVAHLS-KEEVAAVNEAKRQGRYTTDDGYIFSPTDII
IA, Masako
NO. 5849503iko
MUTANT PROTEINS (
TOPOISOMERASE I
                                                          NO.
                                                                                                                                                                   US/08663112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -DIEKSRLSNHAQANGYY-QGNNLGERIRD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -KYRHVEEDGL--IFEPTQVIKSNAFGYVVPH-
                                                                                                                                                                                                                                                                                            --SGDNYFTALKDNMTINKY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 128.5; I
Pred. No. 0.1;
37; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -SQLSPLEMELADRYLAGQTEDDDSGSDHSKPSDKEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                        GKDYFYARDQLDLTQIAFAEQELMLKDKKHYRYDIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---ANGNYEACAAGGQTKLQAKPTNVRDKVNVK
                             OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -DEKHQKDRLGLEYVYDSKGENKWFD
                             HUMAN DNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --HPQACNAKNSTYONFAIKKGIEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244;
                                                                                                                                                                                                                                                                                                                                                                                                    -PNOATVVKDDK-CKYS-
                                                                                                                                                                                                                                                                                                                                                     595
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Length 1076;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -KVTKDGKVGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -SKGK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   231;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     KGKTFK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      499
                                                                                                                                                                                                                                                                                                                                                                                                                                                           552
                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     315
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               650
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    400
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       208
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   262
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              48
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          206
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  40;
```

```
QУ
                                                          Db
                                                                                  Qy
                                                                                                                                                                                              Qy
    Дb
                                                                                                               Дb
                                                                                                                                        QУ
                                                                                                                                                                    Db
                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                              DЪ
                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TELEFAX: 202-40
INFORMATION FOR SEQ
SEQUENCE CHARACTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 26
CLASSIFICATION:
ATTORNEY/AGENT INFO
NAME: Einaudi,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER OF SE
CORRESPONDEN
ADDRESSEE:
ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MOLECULE TYPE: -663-112-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELECOMMUNI
    456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Cli.
STATE: L.
COUNTRY: USA
COUNTRY: 20005-3315
PRADABLE F
                                                          406
                                                                                     500
                                                                                                               361
                                                                                                                                        443
                                                                                                                                                                                               385
                                                                                                                                                                                                                         257
                                                                                                                                                                                                                                                   346
                                                                                                                                                                                                                                                                               200
                                                                                                                                                                                                                                                                                                         308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          141
                                                                                                                                                                                                                                                                                                                                   140
                                                                                                                                                                                                                                                                                                                                                               249
                                                                                                                                                                                                                                                                                                                                                                                          102
                                                                                                                                                                                                                                                                                                                                                                                                                     190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OPERATING SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                42
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TYPE: amino TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TELEPHONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              REFERENC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COMPUTER:
KIRNQYREDWKSKEMKVRQRAVALYFIDKLALRAGNEKEEGETADTVGCCSLRVEHINLH
                          KDKKHYRYDIVDTGIEPR----LAVDVSSLPMHAGN----ATYDTGS--SFVIPHID--
                                                                                                                                                                 ARKQMSKEEKLKIKEENEKLL----KEYG--
                                                                                                                                                                                                                                                                                                                                                                                                                                           KDREKSKHSNSEHKDSEKKHKEKEKTKHKDGSSEKHKDKHKDRDKEKRKEEKVRASGDAK
                                                          HDNKVTW
                                                                                                            FRGRGNH---PKMGMLKRRIMPEDIIINCSK--
                                                                                                                                        TAKHGDH
                                                                                                                                                                                           DDDSGSDHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSKESI--HSVDKSGV
                                                                                                                                                                                                                      ATFFAKMLDHEYTTKEIFRKNFFKDWRKEMTNEEKNII--TNLSKCDFTQMSQYFKAQTE
                                                                                                                                                                                                                                                                                                      EFKGKTFKELLDQLHRLDLKYRHVEEDGLIFEPT---
                                                                                                                                                                                                                                                                                                                                                        RGARPSDYRPTPAPAPGRRKAPIPDV-TPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRD
                                                                                                                                                                                                                                                                                                                                                                                                             RQGRYTTDDGYIFSPTDIIDD-LGDAYLVPHGNHYHYIPKKDLSPSELAAAQAYWSQKQG 248
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSK--
                                                                                                                                                                                                                                                   SNAFGYVVPH-
                                                                                                                                                                                                                                                                         EQKWKWWEE----ERYPEGIKWKFLEHKGPVFAPPYEPLPENVKFYYDGKVMKLSPKAEEV
                                                                                  -SRKVT-
                                                                                                                                                                                                                                                                                                                                                                                        I -- KKEKENGF - SSPPQIKDEPEDDGYFVP -- --
                                                                                                                                                                                                                                                                                                                                 RDEDDVDYKPKKIKTEDTKKEKKRKLEEEEDGKLKKPKNKDKDKKVPEPDNKKKKPKKEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                11 Sim:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEE: Finnegan, Henderson, SEE: Dunner L.L.P.: 1300 I Street, N.W. Washington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              inaudi, Carolyn P.
inaudi, Carolyn P.
TION NUMBER: 32,220
E/DOCKET NUMBER: 066
ICATION INFORMATION:
[E: 202-408-4000
202-408-4400
FOR SEQ ID NO: 2:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      EQUENCES: 7
NCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 2.9%; ilarity 20.1%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              765 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ARACTERISTICS:
                                                      LVSWTENIQGSIKYIMLNPSSRIKGEKDWQKYETAR-
                                                                                                                                    FHYIGFGELEQYELDE--VANWVKAKGQADELAAALDQEQGKEKPLFDTKKV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PatentIn Release #1.0, Version #1.30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                26-NOV-1996
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PC compatible
M: PC-DOS/MS-DOS
                                                                                  -KDGKVGYMM--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/663,112
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           06609.1488-00000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 127; DB 2
Pred. No. 0.082;
); Mismatches 2
                                                                              --PKDGKDYFYARDQLDLTQIAFAEQELML
                                                                                                                                                                                                                                               -GDHYHIIPRSQLSPLEMELADRYLAGQTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Farabow,
                                                                                                                                                                                                                                                                                                                                                                                        ---PKEDIKP--
                                                                                                                                                                -FCIMDNH---KERIANFKIEPPGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 2;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Garrett
                                                                                                           ---DAKVPSPPPGHKWKEVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 765;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                      -QVIK-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ę۶
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -EEVAAVNEAK 189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                214;
                                                      RLKKCVD
                                                                                                                                                                                                                                                                                                                                                                                      ---LKRP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gaps
515
                                                                                                                                    499
                                                                                                                                                                                                                                                                                                                               199
                                                                               541
                                                                                                           405
                                                                                                                                                                                          442
                                                                                                                                                                                                                                                384
                                                                                                                                                                                                                                                                                                                                                                                                                                            101
                            588
                                                                                                                                                                360
                                                                                                                                                                                                                                                                           256
                                                                                                                                                                                                                     314
                                                                                                                                                                                                                                                                                                                                                           307
```

Sear Job	Оу	Qу	Qy Db
ch con	702 590	644 548	589 516
Search completed: May 19, 2003, 08:24:40 Job time : 27.8853 secs	RTINKSDLSQAEWQQAQELLA 722	<pre>MPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDVLAKETFVWKDGSFSIPRADGSSL 701</pre>	HIHVVPYSWLTRDQIATIKYVMQHPEVRPDIWSKPGHEESGSVIPNVTPLDKRAG 643

```
Title:
Perfect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OM protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      No.
            ဓ္ဌ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      score:
         322.5
233
204
174.5
167
167
167
167
155.5
155.5
153.5
153.5
153.5
152.5
152.5
152.5
152.5
152.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            seq
seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              No. is th greater t s derived
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0f
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            length:
length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Issued_Patents_AA:*

1: /cgn2_6/ptodata/1,

2: /cgn2_6/ptodata/1,

3: /cgn2_6/ptodata/1,

4: /cgn2_6/ptodata/1,

5: /cgn2_6/ptodata/1,

6: /cgn2_6/ptodata/1,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US-09-645-835A-4
4080
1 MKTKKVIILVGLLLSSQLTL.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     262574 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              мау 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Minimum Match 0%
Maximum Match 100%
Listing first 45 s
       \begin{matrix} \mathsf{C} \\ \mathsf{C} 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               the number of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
/cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
/cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:
/cgn2_6/ptodata/1/iaa/backfiles1.pep:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Len
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0
20000000000
      746
747
763
947
708
11112
11112
968
968
603
603
603
605
605
985
985
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         number of results
or equal to the
analysis of the t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2003,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ıgth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GenCore
(c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Gapext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29422922
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              07:51:03
PCT-US95-10509-2
US-08-961-083-182
US-08-961-083-56
US-09-228-986-73
US-09-353-585-2
US-09-353-585-3
US-09-228-986-72
US-09-180-439-4
US-09-180-439-6
US-09-180-439-6
US-08-458-834-4
US-08-458-834-4
US-08-477-346-50
US-08-473-089-50
US-08-473-089-49
US-08-473-53A-6
US-08-473-553A-6
US-08-473-553A-2
US-08-666-271-2
5340934-4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       WS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      version - 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       residues
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      predicted by chance to he score of the result bein total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Search time 12.3699 Seconds (without alignments)
1883.841 Million cell upd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   5.1.4_p5_
Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DHDHEHEDENEAKDEQNHAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4578
Ltd.
                  sequence
   Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
Sequence
Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          to have a being printed,
                                                                                                  3, Appli
4, Appli
6, Appli
4, Appli
4, Appli
50, Appli
50, Appl
50, Appl
49, Appl
49, Appl
49, Appl
49, Appl
                                                                                                                                                                                                                                                                                                                                                                                    56, Appl
66, Appl
73, Appl
2, Appli
2, Appli
3, Appli
72, Appli
72, Appli
                                         49,
49,
49,
6, A
2, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2, AF
182,
  Appli
340934
                                                            Appli
Appli
                                            Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Appli
2, App
```

45	44	43	42	41	40	39	38	37	36	i Lu	34	ω ω	32	ω H	30	29	28
40.	•	40.	40.	41.	14	4	4	4		14	4	4	49.	49.		15	150
•	•	٠	•	•	٠	ა	•	•	•	•	•	•	•		•	•	3.7
75	5	75	96	19	\sim		\sim	\sim	\sim	\sim	ω	0	4	4	4	9	1016
4		<u> </u>	4	4	4	N	٢	_	4	2	μ	4	ហ	ᆫ	سا	w	4
09-090-793-7	08-752-929	08-375-709-1	09-228-986-7	08-881-706	09-370-861A-	544-332-11	08-10 7- 755A-	07-991-867B-1	09-063-950-2	08-473-553	08-238-163-2	09-063-950	-US95-0854	08-619-916	08-272-919	86 - 485	80-439
equence 7, Ap	equence 11,	equence 11, Ap	nce 76, A	e 2, 7	equence 11, Ap	equence 11, App	equence 11,	e 11,	e 2,	ω	2	დ აე ,	, Ap	equence 2, Ap	equence 2, Ap	equence 5, Ap	Sequence 8, Appli

ALIGNMENTS

```
DЪ
                                                                                                                                                                                                                                ; MOLECULE TYPE: pro-
PCT-US95-10509-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RESULT 1
PCT-US95-10509-2
                                                                                                                       Query Match
Best Local Simil
Matches 109; C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Sequence
GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MEDIUM ...
COMPUTER: IBM FC COMPUTER: IBM FC OPERATING SYSTEM: PC-DOS, SOFTWARE: Patentin Releaded CURRENT APPLICATION NUMBER: PCT/FILING DATE: 18 AUGUST 1 CLASSIFICATION:
ATTORNEY/AGENT INFORMATION NAME: KOVATIK, JOSEPH EN 133
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRI.
ZIP: 80203
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
OPERATING SYSTEM: PC-DOS
OPERATI
                                                                                                                                                                                                                                                                                                                                                                                                                      TELEFAX:
INFORMATION F
SEQUENCE CH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TITLE OF INVINUMBER OF SEC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME: KOVATIK, JOSEPH E.
REGISTRATION NUMBER: 33,005
REFERENCE/DOCKET NUMBER: 28'
TELECOMMUNICATION INFORMATION:
TELEPHONE: 303/863-9700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
            104
                                                                          409
                                                                                                                                                                                                                                                                                                                                                          TYPE:
                                                                                                                                                                                                                                                                                                                         TYPE: amino TOPOLOGY: li
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE: Sheridan Ross & McIntosh STREET: 1700 Lincoln Street, 35th Floor CITY: Denver STATE: Colorado COUNTRY: U.S.A.
                                                                                                                                                                                                                                                                                                                                                                                     LENGTH:
                                                                    DPLQRKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        2, Application PC/TUS9510509
INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                  N FOR SEQ ID NO:
CHARACTERISTICS:
                                                                                                                             7.9%;
ilarity 28.7%;
Conservative 68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Drevets, Dou
Freed, John
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Campbell, Prisci
Potter, Terry
Sawyer, Richard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   EQUENCES:
                                                           LSLLPNLETLGIGFTPIKDISPVLQFKKLKQLLMTKTGVTDYRFLDNMPQLEG 468
                                                                                                                                                                                                                                                                                                                                                                                       46 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     303/863-0223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENTION:
-LTNLNRLELSSNTISDISALSGLTNLQQLSFGNQ-VTDLKPLANLTTLER 157
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADDRESS:
                                                                                                                                                                                                                                                                                          protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INTERNALIN PRODUCTS AND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Douglas
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Priscilla
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PCT/US95/10509
                                                                                                                                                                                                                                                                                                                                                                                                                                                     2:
                                                                                                                                  68;
                                                                                                                           Score 322.5; DB 5;
Pred. No. 1.3e-16;
8; Mismatches 172;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2879-11-PCT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Version #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PROCESSES
                                                                                                                                Indels
                                                                                                                                                                                         Length 746;
                                                                                                                           31;
                                                                                                                       Gaps
```

```
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-961-083-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT
                                                                                ; TOPOLOGY: 1; MOLECULE TYPE: US-08-961-083-182
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Patent No. 6159405
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Sequence
                            Matches
                                                     Query Match
                                          Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFO
                                                                                                                                                          TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 18:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION DATA:
APPLICATION NUMBER
FILTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CORRESPONDENCE
                                                                                                                                                                                                                     TELECOMMUNICATION
                                                                                                                                                                                                                                                                           ATTORNEY/AGENT
                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               588
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          218
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        458
                                                                                                                                                                                                                      REFERENCE/DOCKET NUMBER: PB
                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER: HP Vec
OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ADDRESSEE:
                          Local Similarity es 75; Conserv
                                                                                                                                                                                                                                                  REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                          FILING DATE:
                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            STREET:
  16
                                                                                                                           STRANDEDNESS:
                                                                                                                                       TYPE:
                                                                                                                                                     LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LDISSNKVSDISVLAKLTNLESLIATNNQISDITPLGILTNLDELSLNGNQLKDIGTLAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LDFLKNNPNLSSLSINRAQLQSLEGIEASSVIVRVEAEGNQIKSLVLKDKQGSLTFLDVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SYAEPDITWNLPSYTNEVSYTFSQPVTIGKGTTTFSGTVTQPLKAIFNAKFHVDGKETTK 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HNQISDLTPLANLTRITQLGLNDQAWTNAPVNYKANVSIPNTVKNVTGALIAPATISDGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GNQLTSLEGVNNFTALDILSVSKNQLTN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LTNLTDLDLANNQISNLAPLSGLTKLTELKLGANQISNISPLAGLTALTNLELNENQLED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LHQLQELHIDNNQITDLSPVSHKESLTVVDLSRNADVDLATLQA-PKLETLMVNDTKVSH 587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EV-EAGNLLTEPAKPVKEGH 476
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EASESHDYNHNHTYEDEEGH 764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ISPISNLKNLTYLTLYFNNISDISPVSSLTKLQRLFFYNNKVSDVSSLANLTNINWLSAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        182, Appli
o. 6159469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---LADLKLNEQHIPEAIAKNFP---AVYEGSMVGNGTAEE--KAAMATK----AKESAQ
SQLTLIA SRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                        20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  INVENTION:
                                                                                                                                     amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                : 9410 Key West Avenue Rockville
                                                                                                                                                                                                                                                               Brookes,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Maryland
                                                                                                                                                      447 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Application
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Choi et.
                           5.7%; larity 30.1%; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                              HP Vectra 486,
                                                                                                               linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Human
                                                                                                                                                                                                                                                                             INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESS:
                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genome Sciences,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Streptococcus pneumoniae
                                                                                                                                                                                                                                                             Anders
                                                                                                                                                                                                                                                                                                                                                                                                    MSDOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       US/08961083
                                                                                                                                                                                                                                                                                                                                                             US/08/961,083
                                                                                                                                                                                                                                                36,373
                                                                                                                                                                                                                                                                                                                                                                                                                              3.50 inch,
                                                                                                                                                                                                                                                                                                                                                                                                    /33
version 6
                           36;
                                                                                                                                                                                                                                      PB340P2
                           Score 233; DB Pred. No. 5e-1 6; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --- VNLSKPN--KTVTNIDISHNNIS---
                                                                                                                                                                                                                                                                                                                                                                                                                               1.4Mb
                                          5e-10;
                                                         DB
                                                                                                                                                                                                                                                                                                                                                                                                                               storage
                                                       4;
                              96;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Antigens
                                                       Length 447;
                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   and Vaccines
                               42;
                              Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 647
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              277
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  217
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            528
                                12;
```

```
RESULT 3
US-08-961-083-56
; Sequence 56, App.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                          Db
                                                 QУ
QУ
                                                                                                                             US-08-
                                                                                                  Query
                                                                                      Best
                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL
                                                                                                                                                                                                 TELEFAX: (301) 309-8512 INFORMATION FOR SEQ ID NO: SEQUENCE CHARACTERISTICS:
                                                                                                                           MOLECULE TY
8-961-083-56
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF
                                                                                                                                                                                                                                                      TELECOMMUNI
                                                                                                                                                                                                                                                                                                                                                                                            CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                       COMPUTER READABLE FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF
                                                                                                                                                                                                                                                                                                                                           PRIOR APPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CORRESPONDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                       ATTORNEY/AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    381
                                                                                                                                                                                                                                                                              NAME: Bro
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            71
                                                                                      Local
                                                                                                                                                                             TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                       SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING
                                                                                                                                                                                                                                                                                                                                                                                                                                  COMPUTER:
                                                                                                                                                                                                                                           TELEPHONE:
                                                                                                                                                                                                                                                                   REFERENCE
                                                                                                                                                                                                                                                                                                                   FILING DA
                                                                                                                                                                                                                                                                                                                                                       CLASSIFIC
                                                                                                                                                                                                                                                                                                                                                                    FILING DATE
                                                                                                                                                                                                                                                                                                                                                                                                                                             MEDIUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STREET:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE
                                                                                                                                                                                                                                                                                                                               APPLICATI
                                                                                                                                                                                                                                                                                                                                                                                APPLICATI
                                                                                                                                                     TOPOLOGY
                                                                                                                                                                 STRANDEDNESS:
90 IVVDHDGHSHFIFYADLKGSPFEYLIPKGASLAKPAVAQRAASQGTSKVADPHHHYEFNP 149
                                                   30
                                                                                                                                                                                         LENGTH:
                                                                                                    Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VMSHGDHNH 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQLSYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KSNQIGQPTLPNNSLAT - - PSPSLPINPGTSH - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            AKP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ESDGLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVDHDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          \tt KSSLSGQTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -DDGFI
                                                   TYPIK
                           SYELG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION:
                                                                            168;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      208
                                                                          5.5%; Score 223; DB 4; Length 796; Similarity 19.5%; Pred. No. 7e-09; 8; Conservative 116; Mismatches 279; Indels 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        : 9410 Key West Avenue Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE:
                                                                                                                                                                               amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Maryland
                                                                                                                                                                                                                                                                                                                            CATION: 435
ICATION DATA:
ION NUMBER:
                        LYQARTVKENNRVSYIDGKQATQKT-ENLTPDEVSKREG--INAEQIVIKITDQG 57
                                                 TKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPTDDGFILTKDSKILSKTDQG 89
                                                                                                                                          YPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HLH 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    F-DPAKIISRTPNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTGSTVSTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LTKDSKILSKTDQGIVVDHDGHSHFIFYADLKG--SPFEYLIP---KGASL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STASDNN--
                                                                                                                                                                                                                                                                                                                                                                                                                     SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pplication US/08961083 9469
                                                                                                                                                                                                                                         CATION INFORMATION:
(301) 309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NCE ADDRESS:
                                                                                                                                                                                         796
                                                                                                                                                                                                                                                                                ION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EQUENCES:
                                                                                                                                                                                                                                                                                            ookes,
                                                                                                                                                                                                                                                                                                                                                                                 ON NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Choi
                                                                                                                                                                                                                                                                                                                                                                                                                            E: Diskette,
HP Vectra 486
                                                                                                                                                                                                                                                                                                                                                                                                        ASCII Text
                                                                                                                                                      linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Human Genome Sciences, Inc.
                                                                                                                                                                             acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL
                                                                                                                                                                                         amino acids
                                                                                                                                                                                                                                                                                                        INFORMATION:
                                                                                                                                        protein
                                                                                                                                                               single
                                                                                                                                                                                                                                                                                          Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Streptococcus pneumoniae Antigens and Vaccines 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 al.
                                                                                                                                                                                                                                                                                                                                                                                                                     MSDOS version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS
                                                                                                                                                                                                                                                                                                                                                                                                                                  486/
                                                                                                                                                                                                                                                                                                                                                                                 US/08/961,083
                                                                                                                                                                                                                                                                              36,373
                                                                                                                                                                                                                                                                                                                                                                                                                                3.50 inch, 1.4Mb storage )/33
                                                                                                                                                                                                                                                                     PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -EKHEEDGYGFDANRIIAEDESGF
                                                                               Indels 300;
                                                                             Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      261
                                                                             42;
```

```
RESULT 4
US-08-961-083-66
; Sequence 66, Application
; Patent No. 6159469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              20
                                                                                                                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                                                                                                                 B
                                                                                                                                                                                                                                                                                                                                                        Qγ
                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                          фd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ğ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δõ
                                                                                                                                                                              GENERAL INFORMATION:
                                                                                                     APPLICANT: Choi et. al.
TITLE OF INVENTION: Stre
NUMBER OF SEQUENCES: 45;
CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genor
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50
COMPUTER: HP Vectra 486/33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                150
                                                                                                                                                                                                                                                                             652
                                                                                                                                                                                                                                                                                                                                                                                     545
                                                                                                                                                                                                                                                                                                                                                                                                                                           506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             \frac{\omega}{\omega}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       269
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 155
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 287
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           199
                                                      STREET:
CITY: RC
STATE: N
COUNTRY:
                                            ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           58
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QLLMTKTGVTDYRFLDNMPQLEGIDISQNNLKDI-SFLSKYKNL--TLVAAADNGIEDIR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EDIVNEVKGGYVIKVDGKYYVYLKDAAHADNVRTKEEINRQKQEHSQHREGGTPRNDGAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ADIVAEDALGYTVRHDDHFHYILKSS-
                                                                                                                                                                                                                                                                            APNGYTLEDLFATIKYYVEHPDE
                                                                                                                                                                                                                                                                                                                                                        TAEEKAAMATKAKESAQEASESHDYNHNHTYEDEEGHA-
                                                                                                                                                                                                                                                                                                                                                                                                             LTNVNLSKPNKTVTNIDISH--NNISLADLKLNEQHIPEAIAKN---FPAVYEGSMVGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KDPNMMKEWLATVIKLDLGSRKDPLQRKGLSLLPNL-ETLGIGFTPIKDISPVLQFKKLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SLLKQLYKLPLSQRHVESDGLVFDPAQI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EKLAYL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FLSGRGNLSNSRTYRRQNSDNTSRTNW--VPSVSNPGTTNTNTSNNSNTNSQASQSNDID
                                                                                                                                                                                                                                                                                                                               TGDSAAAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDHTYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IEASSVIVRVEAEGNQIKSLVLKDKQGSLTFLDVTGNQLTSLEGVNNFTALDILSVSKNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SLTVVDLSRNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPNLSSLSINRAQLQSLEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRDQEFYDKAYNLLTEAHKALFXNKGRNSDFQALDKL--LERLNDES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLGQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PSPGPQP - - - APNLKIDSNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ERIARIIPLRYRSNHWVPDSRP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ALARSQG----RYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STATANGIPGLHFPTSDGFQFNGQGIVGVTKDSILVDHDGHLHPISFADL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           YVTSHGDHYHY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -VFEEKGISRYVFAKDLP-
                                                      SSEE: Human
T: 9410 Key
Rockville
Rockville
Maryland
RY: USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IGKDIP--
                                          20850
                                                                                                                                                                                                                                                                                                                                                                                                                                          --SQIEYTEDEVRIAQLADK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -LPNL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --DPHAIEHARELEKHKVGMDTLRALGFDEEVILDIVRTHDAPTPFPSNE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -DLLAFLAP
                                                                                                                           al.
Streptococcus
. 452
                                                                                               Genome Sciences, West Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --AEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVL---MLSDIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RQG--
                                                                                                                                                                                                         US/0896108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -KFLVLSNNKISDLSPLASLHQLQELHIDNNQITDLSPVSHKE
                                                                                                                                                                                                                                                                                                   EHEDE
                                                                                                                                                                                                                                                                                                                                                                                   SHWIGKDSLSD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YNGKVPYDAIISEELL-
                                                                                                                                                                                                                                                                            674
                                                                                                                                                                                                                                                                                                     781
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GWAHVADQYDPAKKAEKPAETHQTPELSEREKEYQ
                inch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -SETVKNLESKLSKQESVSHTLTAKKEN-
                                                                                                                                                  pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SLVSQLVRKVGEGY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --ITHPERL-GKPN-
                                                                                                                                                                                                                                                                                                                                                                                    -KEKVAAQAYTKEKGILPPSPDADVKANP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -TSRTARGVAVPHGDHYHFIPYSQMSELE
                1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                        --YTTSDGY-IFDEHDIISDEGDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -LSGQTQAQAKQVATRLPQTSSLV
               storage
                                                                                                                                                  Antigens
                                                                                                                                                                                                                                                                                                                                                         HEHRDK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -MKDP - - NYKLKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -EQPSPQPTPE
                                                                                                                                                   and
                                                                                                                                                                                                                                                                                                                                                         -DDHDH-
                                                                                                                                                   Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -TNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -VA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              198
                                                                                                                                                                                                                                                                                                                              651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    154
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         94
                                                                                                                                                                                                                                                                                                                                                                                                                                        544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                502
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          386
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          248
```

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                         Db
                                                                                                                Db
                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ОÃ
  Дb
                           QУ
                                                                                  QУ
                                                                                                                                         QУ
                                                                                                                                                                                                 QΥ
                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                              QУ
                                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TELEFAX: (3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TOPOLOGY:
MOLECULE TYF8-961-083-66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILING DAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM: MSDO SOFTWARE: ASCII Text CURRENT APPLICATION DATA: APPLICATION NUMBER: US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR APPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCE
                                                                                                               435
  525
                                                        470
                                                                                                                                           457
                                                                                                                                                                                                  417
                                                                                                                                                                                                                              337
                                                                                                                                                                                                                                                         357
                                                                                                                                                                                                                                                                                                                                                                                                 164
                                                                                                                                                                                                                                                                                                                                                                                                                                                          108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            101
                                                                                                                                                                                                                                                                                     282
                                                                                                                                                                                                                                                                                                                                            223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Sir
hes 171;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TYPE: amino acid STRANDEDNESS: si
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: Brookes, A. A REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        29
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TELEPHONE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LASSIFIC
                                                                                                                                                                                                                                                                                                                                                                      -0H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GMTSNK
                           PKLETLMVNDTKV----SHLDFLKNNPNLSSLSINRAQLQSLE-GIEASSV----IVRVE
                                                       SDKVKLVXDILAFLAPIRHPERLGKPNAQITYTD-
                                                                                    NNKI--
                                                                                                                                                                     GYV--FEENGVSRYIPAKDLSAETAAGIDSKLAKQESLSHKLGAKKTDLPSSDREFYNKA 434
                                                                                                                                                                                                  SLLPNL
                                                                                                                                                                                                                                                                                    QITSRT
                                                                                                                                                                                                                                                                                                                                            SSYNAN
                                                                                                                                                                                                                                                                                                                                                                                                 TDDGYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                          VIKVNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TVRHDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GOKAEN
  PRDITS
                                                                                                                                                                                                                                                       DTLRALGEDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKLDLGSRKDPLQRKGL 416
                                                                                                                                                                                                                                                                                                                                                                                                                            TSDGFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          IFYADL
                                                                                                                 YDLLAR
                                                                                                                                           YRFLDN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    X: (301) 309-8512
N FOR SEQ ID NO: (
CHARACTERISTICS:
IHQ----DLLDNKGRQVDF----
                                                                                                                                                                                                ETLGIG-FTPIKDISPV--
                                                                                                                                                                                                                                                                                 --GLEYPHHDHAHVL---MLSDIE--IGKDIP----DPHAIEHARELEKHKVGM
                                                                                                                                                                                                                                                                                                                                       FNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELA-AAEAYWNGKQGSRPSSS
                                                                                                                                                                                                                                                                                                                                                                                                                           FNGQGIVGVTKDSILVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAET
                                                                                                                                                                                                                                                                                                                                                                                                                                                       KYYVYLKDAAHADNIRTKEEIKRQKQERSHNHNSRADNAVAAARAQG----RYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5.0%; Score 204; DB 4; I ilarity 19.8%; Pred. No. 1.9e-07; Conservative 125; Mismatches 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ATION: 435
CATION DATA:
                                                                                                                                          MPQLEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIRPLGQLPNLKFLVLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   HFHYILKSSLSGQTQAQAKQVATRLPQTS-----SLVSTATANGIPGLHFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KGSPFEYLIPKGASLAKPAVAQRAASQGTSKVADPHHHYEFNPADIVAEDALGY 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LTPDEVSKREG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 IKPIKKSKKTNKTHKGVAGVDFPTDDGFILTKDSKILSKTDQGIVVDHDGHSHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          763 amino acids
                                                                                                                                                                                                                                                                                                                                                                      -TPELSER--
                                                                          -SDLSPLASLHQLQELHIDNNQITDLSPVSHKESLTVVDLSRNADVDLATLQA 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --YNGKVPYDAIISEELL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (301) 309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            single
                                                                                                                                                                                                                             --SPQSTPEPSPSPQPAPNPQP---APSNPIDEKLVKEAVRKVGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MSDOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/961,083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  version
                                                                                                                                                                                                                                                                                                                                                                    --EKEYQEKLAYLAEKLGIDPSTIKRVETQDGKL----
                                                                                                                                                                                                 --LQFKKLKQ-LLMTKTGV--TD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    6.2
                                                                                                                ---EALDNLLERLKD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---MKDP--NYQLKDSDIVNEIKGGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -INAEQXVIKITDQGYVTSHGDHYHY 70
                                                         --DEIQVAKLAGKYTTEDGYIFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Length 763;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             254;
                                                                                                                ----VX 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
```

107

100

356

281

222

456

623

δÃ

TSLEGV - -

В

624

AEG--

--NQIKS-

В

638

80

US-09-228-986-73; And Sequence 73; And Andrews

24;

Patent No.

Db

QR - - NKN - -

δÃ

```
GENERAL INFORMATION:

APPLICANT: Strabala, Timothy

APPLICANT: Nieuwenhuizen, Niels

TITLE OF INVENTION: Compositions Isolated from the invention of their Use in the Moore than the Moore
; Sequence 2, Application (
; Patent No. 6168920
; GENERAL INFORMATION:
; APPLICANT: Hillman, Jenr
; APPLICANT: Yue, Henry
                                                                                                                                                                                                                         LTAMLSLTLLNISNNSLTGVLPKFPNSTSALIIIDTGNPGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         GNNNLSGSLTNQLPSLLQLQVLKLHNNNFVGSIPYILSSFSNLSYVDLSDNT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SNNKISD--LSPLASLHQLQELHIDNNQITDLSP--VSHKESLTVVDLSRNADVDLATLQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QLEGIDISQNNLK-DISF-LSKYKNLTLVAAADNGIEDIRPLGQLP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PVQ---LAKLTELHFLDLSYNGLNETIPPELFALSNLQTLDLTKNLLTGEIPQNFSRKLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLQRKGLSLLPNLETLGIGFTPIKDISP - - VLQFKKLKQLLMTK - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                             APKLETLMVNDTKVSHLDFLKNNPNLSSLSINRAQLQSLEG---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GHAHEHRDKDDHDHEHEDENEAKD
                                                                                                                                                                                                                                                                      FTA---LDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RLR----IGQNLLKGNIPLTIGNWSNLTYLEMNDNSLD-----GQIPQQLVNCIKLQLLDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SPEESEEPQVETEKVEEKLREAED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEAIAKNFPAVYEGSMVGNGT---AEEKAAMATKAKESAQEASESHD--YNHNHTYEDEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIKFEWFD-
                                                                                                                                                                                                                                                                                                                    NNLTGTMPLEIGFVRKLQIQLNLSCNSLEGEIPNTLSGLYMLEILDLSNNKLTG-EVPGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -- EGLYEAPKGYTLEDLLATVKYYVEHPN-ERPHS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3, Application US/09228986 6359198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                  LNGSIPSNIF --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -NNFTALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               radiata
                                 Jennifer
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GQADTNQTEKPSEEKPQTEKPEEETPREEKPQSEKPESPKPTEEPEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   130
                                                                                                       US/09131648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                4.3%;
                                                                                                                                                                                                                                                                                                                                                                 -SLVLKDKQGS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          44;
                                                                                                                                                                                                                                                                                                                                                                                                                  -NLSKLQNLRLQNNKLTGAIPNTVGGSQVLLELQLGG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Score 174.5; DB 4
Pred. No. 5.1e-05;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              786
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Isolated from Plant (
in the Modification
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -LVLKDKQGSL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----DNGFGNAS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            119;
                                                                                                                                                                                                                                                                                                                                                                  -LTFLDVTGNQLTSLEGVNN
                                                                                                                                                                                                                                                                       697
                                                                                                                                                                                                                                                                                                                                                                                                                                                            -- IEASSVIVRVEAEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cells
n of Plant
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TGVTDYRFLDNMP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -TFLDVTGNQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         947;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -NLKFLVL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           87;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -- DHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                             626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      707
                                                                                                                                                                                                                                                                                                                                                                     659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         571
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   515
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Signalling
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 732
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           762
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            17;
                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    γQ
                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US-09-131-648-2
                                                                                                                                                                                                                                                                                                                    US-09-353-585-
                                                                                                                                                                                                                                  Sequence 2, Application Patent No. 6287865
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/131,648
CURRENT FILING DATE: 1998-08-10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
TITLE OF I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          426
                                                                                                                                                                                                                                                                                                                                                                                                               544
                                                                                                                                                                                                                                                                                                                                                                                                                                                             719
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          500
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 385
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     513
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   205
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                478
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     380
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       88
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ICANT: Patterson, Chandra
E OF INVENTION: EXTRACELLULAR ADHESIVE
REFERENCE: PF-0576 US
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NO 2
                                                                            CORRESPONDENC
                                                                                                   NUMBER
                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                 TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QLQSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NIRFM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GIGFTPIKDISPVLQFKKLKQLL-----MTKTGVTDYRFLDNMPQLEGIDISQN----NLK 477
                                                                                                                                                                                                                                                                                                                                                                                                                                                           YEGSMYGNGTAEEKAAMATKAKESAQEA---SESHDYNHNH 756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RATAEPQPEIYWITPSGQKLLPNTLTDKFYVHSEGT---LDING--VTPKEGGLYTCIAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RVEAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LDLNKNPINRIRRGDFSNMLHLKELGINNMPELISIDSLAVDNLPDLRKIEATNNPRLSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LVLSNNKISDL--SPLASLHQLQELHIDNNQ---ITDLSPVSHKESLTVVDLSRNADVDL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DMNFKPLINLRSLVIAGINLTEIPDNALVGLENLESISFYDNRLIKVPHVALQKVVNLKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DISFLSKYKNLTLVAAADN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          YINHNLLSTISPG-AFIGLHNLLRLHLNSNRLQMINSKWFDALPNLEILMIGENPIIRIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TDFPVNLTGLDLSQNNLSSVTNINV--KKMPQLLSVYLEENKLTELPEKCLSELSNLQEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TPFPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   INFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NETALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEATAKNEPAV
                                                                                                                                                                                                                                                                                                                                                                                                                  --SSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NLVGADLKSV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 1998-08-10
DF SEQ ID NOS: 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ll Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             708
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PE
         \bigcirc
                          SPONDENCE ADDRESS:
ADDRESSEE: Nixon &
STREET: 8th Floor,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Corley, Neil C. Guegler, Karl J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ATLQAPKLETLMVNDTKVSHL--DFLKNNPNLSSLSI---
                                                                                                                                                    ^{\circ}
                                                                                                                                                                                                                                                                   pplication US/09353585
87865
                                                                                                                                                                                                                                                                                                                                                                                                          ILKSSVKWTAFVKTENSHAAQSARIPSDVKVYNLTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NEKDPNMMKEWLATVIKLDLGSRKDP---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EPDSLFCVDPPEFQGQNVRQVHFRDMMETCLPLIAPESFPSNLNVEAGSYVSFHC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MATION:
                                                                                                    OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        4.1%; Score 168; DB 4;
larity 21.7%; Pred. No. 0.0001;
Conservative 80; Mismatches 159
                                                                                                                Jones, David A
Jones, David A
Jones, Jonathan DG
INVENTION: Plant pathogen resistance
thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Program
         Arlington
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     2687731
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -MIKVDGSFPQDNNGSL----NIKIRDIQAN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -GNQIKSLVLKDK--
                                                                                                       15
                                                   Ŝ
                             Vanderhye
1100 No. 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -GIEDIR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --- QGSLTFLDVTGNQLTSLEG---
                             6287865th Glebe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  158;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 708;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    --LQRKGLSLLPNLETL 425
                                                                                                                                              genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -GIEASSVI---V
                              Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --PLGQLPNLKF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -SVLVSWKA-
                                                                                                                                                 and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  170;
                                                                                                                                                 uses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --NRA 605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    499
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       145
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  264
```

Ş

572

Дb

Qy

밁

Ş

540

RESULT 6 US-09-131-648-2

Дb

Ş

NQIK-

QΥ

465

멍

Š

410

Best

Local

Similarity

Query Match

Matches

91;

; ORGANISM: Pinus US-09-228-986-73

TYPE: PRT

NUMBER SOFTWARE: Fac SOFTWARE: Fac SOFTWARE: 947

SEQ ID NOS: FastSEQ for

DЬ

```
Ş
                                                                                                    Ş
                                                                                                                                                                   δõ
                                                                                                                                                                                                                                 Ş
                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                               Ş
                                                                       밁
                                                                                                                                    В
                                                                                                                                                                                                     멍
                                                                                                                                                                                                                                                                   Вb
                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ; SEQUENCE DESCRIPTION: SEQ ID NO: US-09-353-585-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local Similarity
Matches 104; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (703) 816-4000
TELEFAX: (703) 816-4100
INFORMATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 1112 amino acids
                                     665
       459
                                                                                                                                                                                                                                                                                                                                                                445
                                                                                                                                    339
                                                                                                                                                                    575
                                                                                                                                                                                                     279
                                                                                                                                                                                                                                                                   219
                                                                                                                                                                                                                                                                                                   490
                                                                                                                                                                                                                                                                                                                                                                                                118
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ZIP: 22201-4714
COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: Patentin Release #1.0, V
CURRENT APPLICATION NUMBER: US/09/353,585
FILING DATE: 15-Jul-199
FILING DATE: 15-Jul-199
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYPOTHETICAL: YES
ORIGINAL SOURCE:
ORGANISM: Tomato
STRAIN: Cf2
SEQUENCE DESCRIPTIONS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TYPE: amino acid
STRANDEDNESS: <Unknown>
TOPOLOGY: linear
MOLECULE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NAME: MS Mary J Wilson
REGISTRATION NUMBER: 32,955
REFERENCE/DOCKET NUMBER: 620-69
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ATTORNEY/AGENT INFORMATION:
NAME: MS Mary J Wilson
REGISTRATION NUMBER: 3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
                                                                                                                                                                                                                                                                                                                                                         KQLLMTKTGVTDYRFLDNMPQLEGIDISQNNLKDISFLSKYKN--
   FLFLYENQLAS
                                                                                                                              RLNLVNNQLSGSIPASLGNLNNLSMLYLYNNQLSGSIPASLGNLNNLSMLYLYNNQLSGS
                                                                                                                                                                LETLMVNDTKVSHLDFLKNNPNLSSL--
                                                                                                                                                                                            IPASLGNLNNLSFLFLYGNQLSGSIPEEIGYLRSLNVLGLSENALNGSIPASLGNLKNLS
                                                                                                                                                                                                                                                           ELDLSDNALNGSIPASLGNMNNLSFLFLYGNQLSGSIPEEICYLRSLTYLDLSENALNGS
                                                                                                                                                                                                                                                                                             LVAAADNGIEDIRP--LGQLPNLKFLVLSNNKIS--
                                                                                                                                                                                                                                                                                                                                                                                          LTNLVYLDLNNN----QISGTIPPQIGLLAKLQIIRIFHNQLNGFIP-KEIG
                                    ILSVSKNQLTNVNLSKPN--
                                                                                                                                                                                                                                                                                                                            RSLTKLSLGI---NFLSG----SIPASVGNLNNLSFLYLYNNQLSGSIPEEISYLRSLT
                                                              IPASLGNLNNLSRLYLYNNQLSGSIPEEIGYLSSLTYLDLSNNSINGFIPASFGNMSNLA
                                                                                                 IVRVEAEGNQIKSLVLKDKQ-
                                                                                                                                                                                                                                                                                                                                                                                                                             LATVIKLDLGSRKDPLQRKG
                                                                                                                                                                                                                              --PLASLHQLQELHIDNNQITDLSP--VSHKESLTVVDLSRNA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OR APPLICATION DATA:
APPLICATION NUMBER: US 08/930,277
FILING DATE: 27-OCT-1997
APPLICATION NUMBER: PCT/GB96/00785
FILING DATE: 01-APR-1996
APPLICATION NUMBER: GB 9506658.5
FILING DATE: 31-MAR-1995
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          STATE: V. COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CLASSIFICATION: C12N 15/29, 1/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                       4.1%;
nilarity 24.3%;
Conservative 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CRY: United States 22201-4714
---SVPEEIGYLRSLNVLDLSENALNGSIPASFGNLNNLSRLNLVNNQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                               49;
                                   -KTVTNIDISH-
                                                                                                                                                                                                                                                                                                                                                                                                                            -- LSLLPNLETLGI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Score 167; DB 4;
Pred. No. 0.00025;
9; Mismatches 141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US/09/353,585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of America
                                                                                             -GSLTFLDVTGNQLTSL--EGVNNFTALD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        15/82,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                            141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       A01H
                                                                                                                                                              SINRAQLQSLEGIEASSV
                                                                                                                                                                                                                                                                                                                                                                                                                          -GFTPIKDISPVLQFKKL 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 1112;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5/00,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                               NNISLADLKLNE-
                                                                                                                                                                                                                            --DVDLATLQAPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       25
                                                                                                                                                                                                                                                                                               -DLS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     AOlN
                                                                                                                                                                                                                                                                                                                                                                                                                                                          134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      65/00,
                                                                                                                                                                                                                                                                                                                                                           LI
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
515
                               704
                                                                458
                                                                                               664
                                                                                                                                                               618
                                                                                                                                                                                                                              574
                                                                                                                                                                                                                                                                                                                                                           489
                                                                                                                                                                                                                                                             278
                                                                                                                                                                                                                                                                                                                            218
                                                                                                                                                                                                                                                                                                                                                                                           166
                                                                                                                                                                                              338
                                                                                                                                                                                                                                                                                            524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      C12Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                          20;
```

```
Дb
                            QУ
                                                      Dр
                                                                             QУ
                                                                                                                                             STRAIN: Cf2; SEQUENCE DESCRIPTION: US-09-353-585-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RESULT 8
US-09-353-585-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     dd
                                                                                                                   Best
                                                                                                      Matches
                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3, Application US/09353585 Patent No. 6287865 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                        INFORMATION
    167
                             445
                                                      118
                                                                               396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    516
                                                                                                                   Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             705
                                                                                                                                                                                                                                                                                                               PRIOR APPLICATION DATA:

APPLICATION NUMBER: US 08/930,277

FILING DATE: 27-OCT-1997

APPLICATION NUMBER: PCT/GB96/00785

FILING DATE: 01-APR-1996

APPLICATION NUMBER: GB 9506658.5

FILING DATE: 31-MAR-1995

ATTORNEY/AGENT INFORMATION:

NAME: Ms Mary J Wilson

REGISTRATION NUMBER: 32,955

REFERENCE/DOCKET NUMBER: 620-69

TELECOMMUNICATION INFORMATION:

TELEPHONE: (703) 816-4000

TELEPHONE: (703) 816-4100
                                                                                                                                                                                                   MOLECULE TYPE:
HYPOTHETICAL:
ORIGINAL SOURC
                                                                                                                                                                                                                                                                                  SEQUENCE CHAPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      COMPUTER READABLE FORM:
MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compati
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TITLE
   RSLTKLSLGI - - - NFLSG - -
                         KQLLMTKTGVTDYRFLDNMPQLEGIDISQNNLKDISFLSKYKN-
                                                                            LATVIKLDLGSRKDPLQRKG----LSLLPNLETLGI----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -QHIPEAI
                                                      LTNLVY
                                                                                                     al Simi
104;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SGSIPE
                                                                                                                                                                                                                 TOPOLOGY: linear
CULE TYPE: protein
THETICAL: YES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   STREET: 8th Floc
CITY: Arlington
STATE: Virginia
                                                                                                                                                                               ORGANISM: Tomato STRAIN: Cf2
                                                                                                                                                                                                                                                       STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
SOFTWARE: PatentIn Release #1.0, Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ZIP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILING DATE: 15-Jul-1999
CLASSIFICATION: C12N 15/29, 15/82,
1/68
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICATION NUMBER: US/09/353,585
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OF.
                                                                                                                                                                                                                                                                              CE CHARACTERISTICS:
ENGTH: 1112 amino acids
                                                                                               4.1%;
nilarity 24.3%;
Conservative 49
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ^{\mathrm{OF}}
                                                 ΕŢ
                                                                                                                                                                                                        SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TRY: United 22201-4714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Jones, David A
Jones, Jonathan I
NVENTION: Plant pa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            711
                                                                                                                                                                                                                                                                    amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Dixon,
                                                                                                                                                                                                                                                                                                        ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Nixon & h Floor,
                                                                                                                                                                                                                                                                    acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Mark
                                                                                                                                                                                                                                                    <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       riant pathogen thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       States of America
                                                                                                                                                                  SEQ
                                                                                                     49;
-SIPASVGNLNNLSFLYLYNNQLSGSIPEEISYLRSLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Vanderhye
1100 No. 6
                                                                                                   Score 167; DB 4; Pred. No. 0.00025; Mismatches 141
                                                                                                                                                                  IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      DG
                                                                                                                                                                 NO:
                                                                                                                                                                  ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           e PC
6287865th
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          resistance
                                                                                                   141;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A01H 5/00,
                                                                          --GFTPIKDISPVLQFKKL 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Glebe
                                                                                                                          Length 1112;
                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Road
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           A01N 65/00,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (EPO)
                                                                                                  134;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         uses
                           Gaps
 218
                                                   166
                         489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           C120
                                                                                                  20;
```

```
RESULT 10
US-09-180-439-3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DЪ
                                                                                                                                                                                                                                              Qy
                                                                                                                                                                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                             Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; ORGANISM: L) US-09-180-439-3
 Db
                                                                               Qy
                                                                                                            DЬ
                                                                                                                                     QУ
                                                                                                                                                                 Db
                                                                                                                                                                                          QУ
                                                                                                                                                                                                                      DЪ
                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                Db
                                                      DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION NUMBER: US/09/180,439; CURRENT FILING DATE: 1998-12-06; EARLIER APPLICATION NUMBER: PCT/GB97/01249; EARLIER FILING DATE: 1997-05-08; EARLIER APPLICATION NUMBER: GB 9609681.3; EARLIER FILING DATE: 1996-05-09; EARLIER APPLICATION NUMBER: GB 9619924.5; EARLIER FILING DATE: 1996-09-24; NUMBER OF SEQ ID NOS: 10; SOFTWARE: Patentin Ver. 2.0
                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO 3
LENGTH: 968
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Dixon, Mark S
APPLICANT: Hatzixanthis, Kostas
APPLICANT: Jones, David A
APPLICANT: Jones, Jonathan DG
TITLE OF INVENTION: Plant patho
FILE REFERENCE: 620 - 53
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 3 Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILE REFERENCE CURRENT APPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          509
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   969
669
                                                     609
                                                                                608
                                                                                                                                                                 489
                                                                                                                                                                                                                       429
                                                                                                                                                                                                                                                475
                                                                                                                                                                                                                                                                                                     432
                                                                                                                                                                                                                                                                                                                                311
                                                                                                                                                                                                                                                                                                                                                           397
                                                                                                                                                                                                                                                                                                                                                                                     261
                                                                                                                                                                                                                                                                                                                                                                                                                                           209
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     287
                                                                                                            549
                                                                                                                                       563
                                                                                                                                                                                           518
                                                                                                                                                                                                                                                                          371
                                                                                                                                                                                                                                                                                                                                                                                                                345
                            659
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          s<sub>-</sub>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SLADLE
                                                                                                                                                                                                                                                                                                                                                                                                                                         EEIGY
                           NFTAL
                                                                                                                                                                                                                                                                                                                              RSLTYLDLGENALNGSIPSSLGNLNNLSRLDLYNNKLSGSIPEEIGYLRSLTYLDLGENA 370
IKDIS
                                                                                                                                                                                                                                                                                                                                                                                    YLRSLTKLSLGINFLSGSIPASLGNLNNLSRLDLY----
                                                                                                                                                                                                                                                                                                                                                                                                                HAREL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EKLAY
                                                       NKLSGTLPTNFSIGCSLISLNLHGNELADEIPRSLDNCKKLQVLDLGDNQLNDTFPMWLG
                                                                                                                                                               NKISDLSP--LASLHQLQELHIDNNQITDLSP--VSHKESLTVVDLSRN-----
                                                                                                                                                                                                                                                 NLKDI
                                                                                                                                                                                                                                                                                                                                                          ATVIKLDLG----
                                                                                 QSLEG
                                                                                                                          --ADVDLATLQA----PKLETLMVNDTKVSHLDFLKNN----
                                                                                                                                                                                                                       NLNNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        3, Application US/09180439
). 6225532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3.9%;
al Similarity 21.3%;
119; Conservative 8
                           DILSVSKNQL-----TNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIA 712
                                                                                                                                                                                                                     FMLYLYNNQLSGSIPEETGYLSSLTELFLGNNSLNGSIPASLGNLNNLSRLYLYN 488
                                                                                                                                                                                                                                                SFLSKYKN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KLNEQHIPEAIA 712
|||::|
----GHIPQELA 517
                                                                                                                                                                                                                                                                                                     PVLQFKKLKQLLMT--
                                                                                                                                                                                                                                                                                                                                                                                                                EKHKVGMDTL---
                                                                                                                                                                                                                                                                                                                                                                                                                                           LRSLTKLSLD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     LAE--KLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEIGKDIPDPHAIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  copersicon esculentum
                                                                                IEASSVIVRVEAEGNQIKSLVLK--DKQGSLTFLDVTGNQL--TSLEGVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Plant pathogen resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kostas
                                                                                                                                                                                                                                                                                                                                                                                                     --RALG-FDEEVILDIVRTHDAPTPFPSNEKDPNMMKE--WL 396
                                                                                                                                                                                                                                                                                                                                                                                                                                         -INFLSGSIPASLGNLNNLSFLYLYNNQLSGSIPE--EIG 260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Score 160; DB 4; Le
Pred. No. 0.00069;
88; Mismatches 204;
                                                                                                                                                                                                                                                                                                                                                          --SRKDPLQRK--
                                                                                                                                                                                                                                               -LTLVAAADNGIEDIRP--LGQLPNLKFLVLSN 517
                                                                                                                                                                                                                                                                                                     -----KTGVTDYRFLDNMPQLEGIDISQN 474
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           genes
                                                                                                                                        ----PNLSSLSINRAQL
                                                                                                                                                                                                                                                                                                                                                           -GLSLLPNLETLGIGFTP 431
                                                                                                                                                                                                                                                                                                                                                                                      ---NNKLSGSIPEEIGYL 310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Length 968;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and uses
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels 148;
   ---QDLPTSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                    548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       344
                                                                                                                                        607
                                                        899
                                                                                   658
                                                                                                              809
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 26;
```

QУ

713

KNFPAVYEGSMVGNGTAEE

g

719

EHL-

KGMRTVDKTMEE

733

DЪ

છ

KGMRTVDKTMEE

```
RESULT 11
US-09-180-439-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Š
                                                                                                                                                                           Š
                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                              δõ
                                                                                                                                                                                                                                                                                                                            DЪ
                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                              В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                              Дb
                                                         δÃ
                                                                                                                                                                                                                                     80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         US-09-180-439-4
                                                                                       밁
                                                                                                                  Ş
                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TITLE OF INVENTION: Plant pathogen resistance File Reference: 620 - 53
CURRENT APPLICATION NUMBER: US/09/180,439
CURRENT FILING DATE: 1998-12-06
EARLIER APPLICATION NUMBER: PCT/GB97/01249
EARLIER FILING DATE: 1997-05-08
EARLIER APPLICATION NUMBER: GB 9609681.3
EARLIER FILING DATE: 1996-05-09
EARLIER APPLICATION NUMBER: GB 9619924.5
EARLIER FILING DATE: 1996-09-24
NUMBER OF SEQ ID NOS: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence 4, Application Patent No. 6225532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Jones,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EQ ID NO 4
LENGTH: 9
TYPE: PR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ORGANISM: Lycopersicon
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   287
                                                                                                                                                                             563
                                                                                                                                                                                                          489
                                                                                                                                                                                                                                                                   429
                                                                                                                                                                                                                                                                                                                            371
                                                                                                                                                                                                                                                                                                                                                                                                                  397
                                                                                                                                                                                                                                                                                                                                                                                                                                              261
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        209
                                                                                       609
                                                                                                                    803
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION:
                                                                                    RSLTYLDLGENALNGSIPSSLGNLNNLSRLDLYNNKLSGSIPEEIGYLRSLTYLDLGENA
                                                                                                                                                                                                                                                                                                                                                                                                                                            YLRSLTKLSLGINFLSGSIPASLGNLNNLSRLDLY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EEIGYLRSLTKLSLD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    EKLAYLAE --
                                                                                                                                               NISDLHILSMSSNSFRGELPSSISNLTSLKILDFGRNNLEGAIPQFFGNISSLQVFDMQN
                                                                                                                                                                                                         NQLSGSIPASFGNMRNLQTLFLSDNDLIGEIPSFVCNLTSLEVLYMSRNNLKGKVPQCLG
                                                                                                                                                                                                                                     NKISDLSP -- LASLHQLQELHIDNNQITDLSP -- VSHKESLTVVDLSRN --
                                                                                                                                                                                                                                                                                               NLKDISFLSKYKN--
                                                                                                                                                                                                                                                                                                                            LNGSIPA-SLGNLNNLFMLYLYNNQLSGSIPEEIGYLSSLTEL-YLGNNSLNGSIPASLG
                                                                                                                                                                                                                                                                                                                                                                                                                   ATVIKLDLG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HARELEKHKVGMDTL-
KNFPAVYEGSMVGNGTAEE
                             TLPELRVLRLTSNKLHGPIRSSGAEIMFPDLRI--IDLSRNAFS
                                                        NFTALDILSVSKNQL-
                                                                                                                    QSLEG-
                                                                                                                                                                                                                                                                  NLNNLFMLYLYNNQLSGSIPEEIGYLSSLTELFLGNNSLNGSIPASLGNLNNLSRLYLYN
                                                                                                                                                                                                                                                                                                                                                         IKDISPVLQFKKLKQLLMT-
                                                                                                                                                                            --ADVDLATLQA----PKLETLMVNDTKVSHLDFLKNN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             119; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Jones, David A
Jones, Jonathan DG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Hatzixanthis,
                                                                                                                 IEASSVIVRVEAEGNQIKSLVLK--DKQGSLTFLDVTGNQL--TSLEGVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEIGKDIPDPHAIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ver
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US/0918043
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       esculentum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Kosta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -RALG-FDEEVILDIVRTHDAPTPFPSNEKDPNMMKE--WL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -INFLSGSIPASLGNLNNLSFLYLYNNQLSGSIPE--EIG
                                                         TNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Pred.
88; Mis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                SRKDPLQRK-
                                                                                                                                                                                                                                                                                              -LTLVAAADNGIEDIRP--LGQLPNLKFLVLSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            resistance
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           160; DB 4; L
No. 0.00069;
smatches 204;
                                                                                                                                                                                                                                                                                                                                                       KTGVTDYRFLDNMPQLEGIDISQN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          genes
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Length 968;
                                                                                                                                                                                                                                                                                                                                                                                                                GLSLLPNLETLGIGFTP
                                                                                                                                                                                                                                                                                                                                                                                                                                              -NNKLSGSIPEEIGYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                            -PNLSSLSINRAQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           uses
                             QDLPTSLF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                       474
                                                                                                                                                                                                                                                                                                                                                                                    370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   344
                                                                                                                                                809
                                                                                                                                                                             607
                                                                                                                                                                                                         548
                                                                                                                                                                                                                                      562
                                                                                                                                                                                                                                                                  488
                                                                                                                                                                                                                                                                                              517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          396
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              26;
```

```
Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; ORGANISM: US-09-180-439-
RESULT 13
US-08-303-238-
                                                                                                              DЪ
                                                                                                                                         Qy
                                                                                                                                                                     B
                                                                                                                                                                                               QУ
                                                                                                                                                                                                                           DЪ
                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                        gd
                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                               Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RESULT 12
US-09-180-439-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO 6
LENGTH: 79
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Patent
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 6,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT FILING DATE: 1998-12-06
EARLIER APPLICATION NUMBER: PCT/GB97/01249
EARLIER FILING DATE: 1997-05-08
EARLIER APPLICATION NUMBER: GB 9609681.3
EARLIER FILING DATE: 1996-05-09
EARLIER APPLICATION NUMBER: GB 9619924.5
EARLIER FILING DATE: 1996-09-24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TITLE OF INVENTION: Plant pathogen resist FILE REFERENCE: 620 - 53
CURRENT APPLICATION NUMBER: US/09/180,439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF
                                                                                                                                                                     447
                                                                                                                                                                                                                                                                                                                                                                  490
                                                                                                                                                                                                                                                                                                                                                                                              221
                                                                                                                                                                                                                                                                                                                                                                                                                          445
                                                                                                                                                                                                                                                                                                                                                                                                                                                     165
                                                        554
                                                                                  719
                                                                                                              507
                                                                                                                                                                                                613
                                                                                                                                                                                                                                                                                  327
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                395
                                                                                                                                                                                                                           387
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                               S--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                WLATVI
                                                                                  YEGSMVGNGTAEE
                                                                                                              VLRLTSNKLHGPIRSSGAEIMFPDLRI--
                                                                                                                                                                                                                           VLSMSSNSFSGELPSSISNLTSLKILDFGRNNLEGAIPQCFGNISSLQVFDMQNNKLSGT
                                                                                                                                                                                                                                                                                                                                        YLDLKENALNGSIPASLGNLNNLSRLYLYNNQLSGSIPEEIGYLSSLTNLYLGNNSLIGL
                                                                                                                                                                                                                                                                                                                                                                   LVAAAD
                                                                                                                                                                                                                                                                                                                                                                                                                         KQLLMT
                                                                                                                                                                                                                                                                                                                                                                                                                                                     YLRSLT
                                                                                                                             ILSVSKNQL-
                                                                                                                                                                                                                                                                                  IPASFG
                                                                                                                                                                                                                                                                                                             SPVS--
                                                        -KGMRTVDKTMEE
                                                                                                                                                                     LPTNFS
                                                                                                                                                                                                                                                      LATLQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         799
                                                                                                                                                                                       --IEASSVIVRVEAEGNQIKSLV--LKDKQGSLTFLDVTGNQL--TSLEGVNNFTALD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            , Application US/09180439 6225532
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PatentIn Ver.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -6
Ly
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Hatzixanthis, Kosta
Jones, David A
Jones, Jonathan DG
                                                                                                                                                                                                                                                                                 NMRNLQALFLNDNNLIGEIPSFVCNLTSLELLYMPRNNLKGKVPQCLGNISDLL
                                                                                                                                                                                                                                                                                                                                                                   NGIEDIRP--LGQLPNLKFLVLSNNKISDLSP--LASLHQLQELHIDNNQITDL
                                                                                                                                                                                                                                                                                                                                                                                                                        KTGVTDYRFLDNMPQLEGIDISQNNLKDISFLSKYKN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                    KLSLGINFLSGSIP---ASLGNMTNLSFLFLYENQLSGFIP-EEIGYLRSLTKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         3.9%; Score 159; DB 4; ilarity 22.6%; Pred. No. 0.00062; Conservative 61; Mismatches 146
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             copersicon esculentum
                                                                                                                                                                     IGCSLISLNLHGNELEDEIPWSLDNCKKLQVLDLGDNQLNDTFPMWLGTLPELR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KLDLG----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                xon, Mark
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ID NOS: 10
                                                                                                                                                                                                                                                    -APKLETLMVNDTKVSHLDFLKNN---
                                                                                                                                                                                                                                                                                                                                                                                              --LDINFLSG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Plant pathogen resistance
                                                                                   731
                                                       565
                                                                                                                                         -TNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIAKNFPAV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SRKDPLQRKGLSLLPNLETLGI-----GFTPIKDISPVLQFKKL 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Kostas
                                                                                                                                                                                                                                                                                                                                                                                              -SIPASLGNLNNLSFLYLYNNQLSGSIPEEIGYLRSLT
                                                                                                              IDLSRNAFS-
                                                                                                                                                                                                                                                                                                             -HKESLTVVDLSRN--
                                                                                                                                                                                                                                                      ----PNLSSLSINRAQLQSLEG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         genes and uses thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 799;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                              -QDLPTSLFEHL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           128;
                                                                                                                                                                                                                                                                                                             -ADVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                   545
                                                                                                                                                                                                                                                                                                                                                                                                                                                     220
                                                                                                                                                                                                                           446
                                                                                                                                                                                                                                                                                                                                                                                                                          489
                                                                                                              553
                                                                                                                                                                     506
                                                                                                                                                                                                  664
                                                                                                                                                                                                                                                       612
                                                                                                                                                                                                                                                                                   386
                                                                                                                                                                                                                                                                                                             566
                                                                                                                                                                                                                                                                                                                                        326
                                                                                                                                                                                                                                                                                                                                                                                               266
```

20;

Sequence 4, Application Patent No. 5654270 GENERAL INFORMATION:

US/08303238

APPLICANT

RUOSLAHTI,

ERKKI

APPLICANT:

```
Ş
                                                                                                                                                                                                                                             δÃ
RESULT 14
US-08-458-834-4
                                                                             δÃ
                                                                                                           Дb
                                                                                                                                    Ş
                                                                                                                                                                                                                   8
                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                     QΥ
                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                     ; MOLECULE US-08-303-238-
                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                         Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TELECOMMUNICATION INFORMATION:
TELEPHONE: 619-535-9001
TELEFAX: 619-535-8949
INFORMATION FOR SEQ ID NO: 4:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICATION NUMBER: US 0 FILING DATE: 17-NOV-1992 ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICATION NUMBER:
FILING DATE:
CLASSIFICATION: 514
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CORRESPONDENCE
ADDRESSEE: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: PatentIn Release #1. CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                      248
                                                                                                                                                                                                                                             503
                                                                                                                                                                                                                                                                                                  443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREET:
CITY: S
                                                                                                                                                                                                                   98
                                                                                                                                                                                                                                                                        61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                               TOPOLOGY: 1
)LECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     REGISTRATION NUMBER: REFERENCE/DOCKET NUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MEDIUM TYPE:
COMPUTER: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
                                                                                                                                                                                                                                                                                                                             ω
                                                   AKLGLSFNSTSAVDNGSLANTPHLRELHLDNNKLTRVPGGLAE-HKYTQVVYLHNNNISV
                                                                                TALDI-
                                                                                                                                                                                                                                                                        HLRVVQCSDLG--
                                                                                                                                                                                                                                                                                      KLKQLLMTKTGVTDYRFLDNMPQLEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIR
                                                                                                            GMKKLS--
                                                                                                                                  SLEGIEASSVIVRVEAEGNQIKSLVLKDKQG---SLTFLDVTGNQLT-
                                                                                                                                                                                       LSRNADVDLATLQAPKLETLMVNDTKVSHLDF-
                                                                                                                                                                                                                  DGDFKNLKNLHALILVNNKISKVSPGAFTPLVKLERLYLSKNQLKELPEKMPK-
                                                                                                                                                                                                                                                                                                                          ATIILLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEP--SLGPVCPFRCQC
                                                                                                                                                                                                                                                                                                                                                    ATVIKLDLG -- SRKDPLQRKGL - SLLPNLETLGIG --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                OF
                                                                                                                                                                                                                                -PLGQLPNLKFLVLSNNKISDLSP--LASLHQLQELHIDNNQITDLSPVSHKESLTVVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OF.
                                                                                                                                                                                                                                                                                                                                                                                . Similarity
93; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       92122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KONSKI, ANTOINETTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SAN DIEGO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CALIFORNIA UNITED STATES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4370 LA JOLLA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HARPER, JOHN R.
PIERSCHBACHER, M.
BORDER, WAYNE A.
                                                                                                                                                               TLQELRAHENEI -
                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LONGAKER, MICHAEL WHITBY, DAVID J.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                E: Floppy disk
IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
                                                                                                           --YIRI-ADTN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                              linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           JENCLE
E ADDRESS:

TIMERELL AND FLORES

TILAGE D
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    CAMPBELL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          amino acids
acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FORM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER:
                                                                                                                                                                                                                                                                        --LDKVP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AND
                                                                                                                                                                                                                                                                                                                                                                                         3.8%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INHIBITORS OF CELL REGULATORY AND METHODS FOR PREVENTING OR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US/08/303, 238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     34,202
ER: P-LA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07/978,931
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MICHAEL
                                                                                                                                                                                                                                                                                                                                                                                51;
                                                                                                                                                             -TKVRKVTFNGLNQMIVIELGTNP-LKSSGIENGAFQ
                                                                                                                                                                                                                                                                                                                                                                            Score 155.5; DB 1;
Pred. No. 0.00035;
1; Mismatches 101;
                                                                                                        : || || || | : ||::: ||:|:|:
ITSIPQGLPPSLTELHLDGNKISRVDAASLKGLNNL
                                                                              -LSVSKNQLTNV--NLSKPNKTVTNIDISHNNISL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      9453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DRIVE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       D.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Version
                                                                                                                                                                                                                                                                        KDLP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SUITE
                                                                                                                                                                                       LKNNPNLSSLSINRAQLQ
                                                                                                                                                                                                                                                                      - PDTTLLDLQNNKITEIK
                                                                                                                                                                                                                                                                                                                                                    -FTPIKDISPVLQFK-
                                                                                                                                                                                                                                                                                                                                                                                                         Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FACTORS
REDUCING
                                                                                                                                                                                                                                                                                                                                                                                                         359;
                                                                                                                                  SLEGVNNF
                                                                                                                                                                                                                                                                                                                                                                               115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SCARRING
                                                                                                                                                                                                                                                                                                                                                                             Gaps
                                                                                                                                   660
                                                                                                                                                             197
                                                                                                                                                                                       809
                                                                                                                                                                                                                 150
                                                                                                                                                                                                                                                                                                                            60
                                                                                                                                                                                                                                                                                                                                                     442
                                                                                                                                                                                                                                           558
                                                                                                                                                                                                                                                                                                502
                                                                                                         247
                                                                                                                                                                                                                                                                                                                                                                               22;
```

```
QУ
                                                 Db
                                                                       Qу
                                                                                                В
                                                                                                                                              Дb
                                                                                                                                                                     QУ
                                                                                                                                                                                             Db
                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                Qy
   DЬ
                                                                                                                       QУ
                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 4, Patent No.
                                                                                                                                                                                                                                                                                                    Query Match
Best Local
                                                                                                                                                                                                                                                                                           Matches
                                                                                                                                                                                                                                                                                                                                        MOLECULE T
08-458-834-4
                                                                                                                                                                                                                                                                                                                                                                                                  INFORMATION
SEQUENCE (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         COUNTRY:
ZIP: 921
COMPUTER RI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CLASSIFIC PRIOR APPLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                CURRENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            CORRESPOND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                          661
                                                                                                                                                                                                                  443
                                                 198
                                                                         609
                                                                                                151
                                                                                                                       559
                                                                                                                                                                      503
                                                                                                                                                                                                                                                                   397
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME: KO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TY
COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         STREET:
                                                                                                                                               86
                                                                                                                                                                                             61
                                                                                                                                                                                                                                                                                                                                                                           TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                       TELEFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: FILING DATE: 17-NO
                                                                                                                                                                                                                                                                                                                                                                 TOPOLOGY
                                                                                                                                                                                                                                                                                                                                                                                                                                      TELEPHONE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                             REFERENC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OPERATIN
                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ADDRESSE
                                                                                                                                                                                                                                           \omega
| : | : | : | : : : : : : | | : AKLGLSFNSISAVDNGSLANTPHLRELHLDNNKLTRVPGGLAE-HKYIQVVYLHNNNISV
                          TALDI
                                                                       SLEGIEASSVIVRVEAEGNQIKSLVLKDKQG--
                                                                                                                                                                                                                  KLKQLLMTKTGVTDYRFLDNMPQLEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIR
                                                                                                                                                                                                                                         ATTILLLAQVSWAGPFQQRGLFDFMLEDEASGIGPEVPDDRDFEP--SLGPVCPFRCQC
                                                                                                                                                                                                                                                                 ATVIKLDLG--SRKDPLQRKGL-SLLPNLETLGIG---
                                                 GMKKL
                                                                                                                                              DGDFKNLKNLHALILVNNKISKVSPGAFTPLVKLERLYLSKNQLKELPEKMPK
                                                                                                                                                                                             HLRVV
                                                                                                                       LSRNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   4,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                _{\rm F}
                                                                                                                                                          -PLGQLPNLKFLVLSNNKISDLSP--LASLHQLQELHIDNNQITDLSPVSHKESLTVVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION:
                                                                                                                                                                                                                                                                                          'Si
93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ΑF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        92122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SAN DIEGO
CALIFORNIA
                                                                                                                                                                                                                                                                                                                                                                                                  CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                     TYPE:
                                                                                                                                                                                                                                                                                                                                                                          amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KONSKI,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HARPER, JOHN R.
PIERSCHBACHER, MI
BORDER, WAYNE A.
INVENTION: INHIBITO
                                                                                                                                                                                                                                                                                        3.8%;
milarity 25.8%;
Conservative. 5:
                                                                                                             .DVDLATLQAPKLETLMVNDTKVSHLDF -
                                                                                                                                                                                             QCSDLG-
                                                                                                                                                                                                                                                                                                                                                                                                               FOR SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                        TION NUMBER: 34,202
E/DOCKET NUMBER: P-1
                                                                                              --TLQELRAHENEI----TKVRKVTFNGLNQMIVIELGTNP-LKSSGIENGAFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CATION: 514
ICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ENCE ADDRESS:

CAMPBELL AND FLORES

4370 LA JOLLA VILLAGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        G SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          EADABLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             pplication
77812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                       619-535-9001
619-535-8949
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RUOSLAHTI, ERKKI 1
LONGAKER, MICHAEL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   UNITED STATES
                                                --YIRI-ADTN----ITSIPQGLPPSLTELHLDGNKISRVDAASLKGLNNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      : Floppy disk
IBM PC compatible
YSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                 linear
                                                                                                                                                                                                                                                                                                                                                                                      amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IMBER: US 0
17-NOV-1992
                                                                                                                                                                                                                                                                                                                                                    protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ANTOINETTE F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FORM:
                                                                                                                                                                                                                                                                                                                                                                                                             ID NO:
                                                                                                                                                                                             --LDKVP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INHIBITORS OF CELL REGULATORY AND METHODS FOR PREVENTING OR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US/08458834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        œ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    US/08/458,834
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ŭ.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      07/978,931
                                                                                                                                                                                                                                                                                         51;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       MICHAEL
                                                                                                                                                                                                                                                                                        Score 155.5; DB 4;
Pred. No. 0.00035;
l; Mismatches 101;
                       --LSVSKNQLTNV--NLSKPNKTVTNIDISHNNISL 697
                                                                                                                                                                                                                                                                                                                                                                                                                                                           9453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DRIVE,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       .
U
                                                                                                                                                                                           ---KDLP----PDTTLLDLQNNKITEIK
                                                                       -SLTFLDVTGNQLT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SUITE
                                                                                                                     -LKNNPNLSSLSINRAQLQ
                                                                                                                                                                                                                                                                  --FTPIKDISPVLQFK---
                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                               Length 359;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   REDUCING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FACTORS
                                                                       -SLEGVNNF
                                                                                                                                                                                                                                                                                        115;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SCARRING
                                                                                                                                                                                                                                                                                       Gaps
  306
                                              247
                                                                                             197
                                                                                                                                                                     558
                                                                                                                                                                                           97
                                                                                                                      608
                                                                                                                                                                                                                   502
                                                                                                                                                                                                                                           60
                                                                                                                                                                                                                                                                                        22;
```

```
밁
                                                                      Ş
                                                                                                         В
                                                                                                                                        50
                                                                                                                                                                           В
                                                                                                                                                                                                           80
                                                                                                                                                                                                                                              망
                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ; INDIVIDUAL ISOLATE: ; INDIVIDUAL ISOLATE: US-08-190-802A-50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Sequence 50, Application US/08190802A; Patent No. 5519003; GENERAL INFORMATION:
APPLICANT: Mochly-Rosen, Daria
APPLICANT: Ron, Dorit
TITLE OF INVENTION: WD-40 - Derived;
TITLE OF INVENTION: Thereof
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-08-190-802A-50
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  REGISTRATION NUMBER: 33,875
REFERENCE/DOCKET NUMBER: 8600
TELECOMMUNICATION INFORMATION:
TELEPHONE: (415) 324-0880
TELEFAX: (415) 324-0960
INFORMATION FOR SEQ ID NO: 50:
SEQUENCE CHARACTERISTICS:
LENGTH: 603 amino acids
TYPE: amino acid
TOPOLOGY: unknown
MOLECULE TYPE: protein
HYPOTHETICAL: NO
ANTI-SENSE: NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 1
                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY: USA
ZIP: 94306-0850
COMPUTER READABLE FO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILING DATE: 01
CLASSIFICATION:
ATTORNEY/AGENT INF
NAME: Fabian, G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORIGINAL SOURCE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE: PatentIn Release CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NUMBER OF SEQUENCES: 2
CORRESPONDENCE ADDRESS:
                                      331
                                                                                                                                          469
                                                                                                                                                                                                                                                                                                                 103
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      STREET:
CITY: I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              MEDIUM TYPE: Floppy disk
COMPUTER: IBM PC compatible
OPERATING SYSTEM: PC-DOS/MS-DOS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ADDRESSEE:
                                                                                                                                                                                                                                                                     MDTLRALGFDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKLDLGSRK----DPL 411
                                  ERTFEGLGQLEVLTLNDNQITEVRVGAFSGLFNVAVMNLSGNC-
                                                                                                LDLSHNRVAGLMEDTFPGLLGLHVLRLAHNAIASLRPRTFKDLHFLEELQLGHNRIRQLG
                                                                                                                                                                                                    QRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQLLMTK---TGVTDYRFLDNMPQLEG
                                                                                                                                                                                                                                      SNLLGRL--EEGLFQGLSHLWDLNLGWNSLVVLPDTVFQGLGNLHELVLAGNKLTYLQPA
    LETLMVNDTKVSHLD
                                                                                                                                                                    LFCGLGELRELDLSRNALRSVK-ANVFVHLPRLQKLYLDRNLITAVAPGAFL-GMKALRW
                                                                                                                                                                                                                                                                                                          IDISQNNLKDI--SFLSKYKNLTLVAAADNGIEDIRP--LGQLPNLKFLVLSNNKISDLS
                                                                                                                                                                                                                                                                                                                                 LGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEIGKDIPDPHAIEHARELEKHKVG
                                                                                                                                                                                                                                                                                                                                                                                   104;
                                                                  -PLASLHQLQELHIDNNQITD--LSPVSHKESLTVVDLSRNADVDLATLQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Palo Alto
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    P.O.
                                                                                                                                                                                                                                                                                                                                                                                Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dehlinger & Associates
D. Box 60850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               01-FEB-1994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FORM:
                                                                                                                                                                                                                                                                                                                                                                            3.8%; Score 153.5; DB 1; 23.3%; Pred. No. 0.0011; cive 77; Mismatches 174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                Insulin-like growth factor
pro. complex-rat, Fig. 33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/190,802A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          8600-0139
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Derived Peptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              #1.0,
FLKNNPNLSSLSINRAQLQSLEGIEASSVIVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and Uses
                                -- LRSLPERVFQGLDK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  bind
                                                                                                                                                                                                                                                                                                         -LFTHTPSLASLSLS
                                                                                                                                                                                                                                                                                                                                                                                                            Length 603;
                                                                                                                                                                                                                                                                                                                                                                            91;
                                                                  ---APK
                                                                                                                                                                                                                                                                                                                                                                            Gaps
```

387

574

330

270

524

468

212

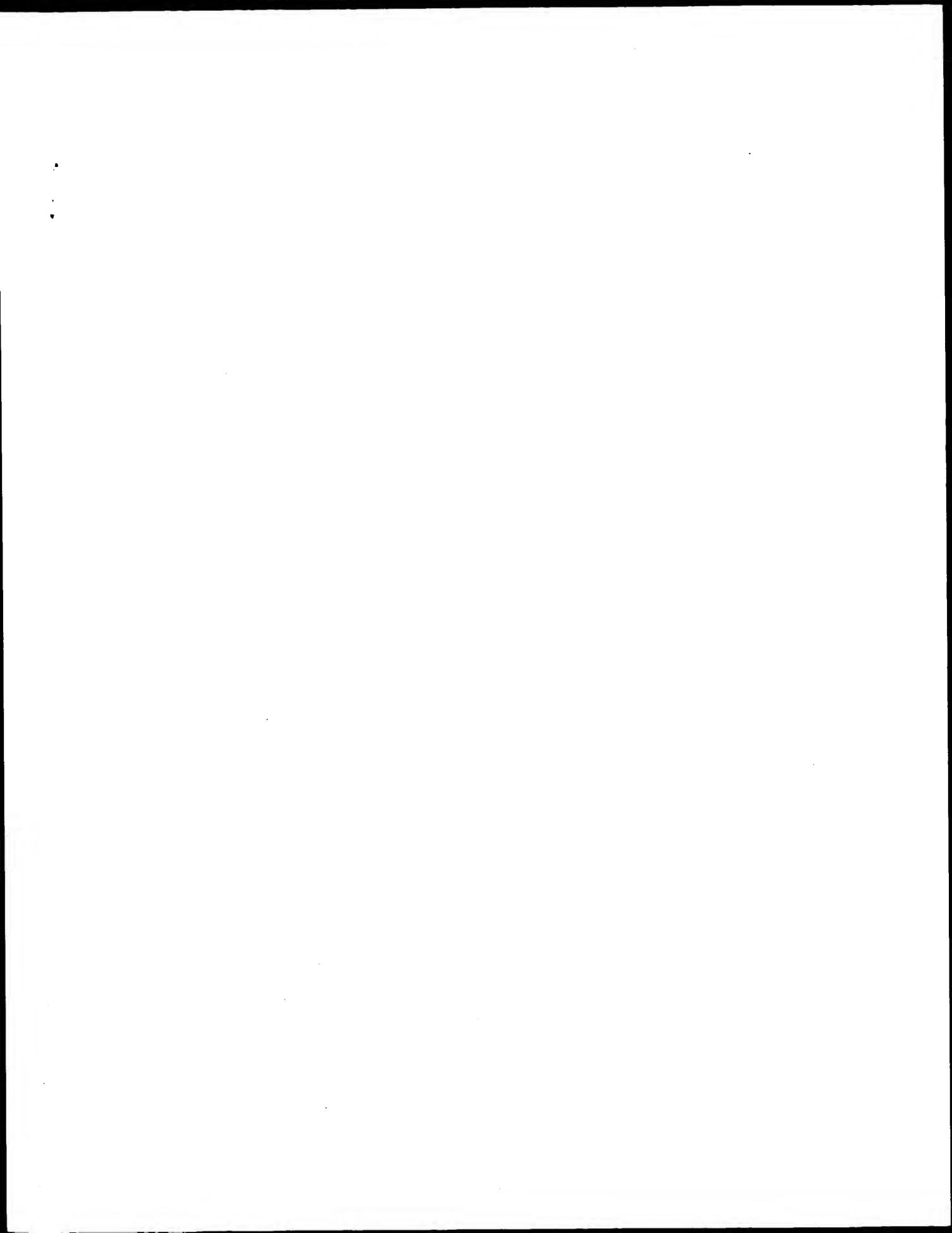
355

20;

154

```
Qy
  멍
                     Db
                               QУ
                                          Дb
           677
                               622
                                          388
                                        THSTHT
SAEVLG
          N--LSK
                  PLORAFWLDISHNHLETLAE 499
                                        PNKTVTNIDISHNNI-SLAD 699
                                        --SISSIEEQSLAGL-
                                        433
```

Search completed Job time: 19.36 1: May 19, 599 secs 2003, 08:24:47



```
Title:
Perfect so
Sequence:
                                                                                                                                                                                                       Resul
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Scoring table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          OM protein
                                                                                                                                                                                            NO.
        on:
                                                                                                                                                                                                                                         Pred. No. score grea and is de
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 number
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         score:
       292.5
292.5
292.5
292.5
292.5
292.5
292.5
292.5
292.5
292.5
292.5
292.5
292.5
195.5
195.1
195.1
195.1
                                                                                                                                                                                            Score
                                                                                                                                                                                                                                         greater tl
s derived )
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq length:
seq length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            of hits satisfying chosen parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein search,
                                                                                                                                                                                                                                                                       Published_Applications_AA:*

1: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

8: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/US60_NEW_PUB.pep:*
                                                                                                                                                                                          Query
Match
                                                                                                                                                                                                                                                            S
                                                                                                                                                                                                                                                                               US-09-645-835A-4
4080
1 MKTKKVIILVGLLLSSQLTL.
                                                                                                                                                                                                                                                                                                                                                                                                                              Minimum
Maximum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gapop 10.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 362588 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BLOSUM62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       мау 19,
        Copyright
                                                                                                                                                                                                                                                            the number
        8888889055579988888
                                                                                                                                                                                                                                                    than
                                                                                                                                                                                                                                       te number of results than or equal to the by analysis of the
                                                                                                                                                                                          Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                              2000000000
     1039
1152
1238
1365
1378
793
793
447
840
838
796
796
1119
1119
1119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2003,
                                                                                                                                                                                                                                                                                                                                                                                                                              Match 0%
Match 100%
first 45 summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GenCore
(c) 1993
                                                                                                                                                                                             DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                96450795 residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gapext 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      using sw
                                                                                                                                                                                                                                                            0f
      07:51:03; Search time 227.541 Seconds (without alignments) 335.715 Million cell upda
  US-09-884-465A-6
US-09-884-465A-379
US-09-884-465A-381
US-09-884-465A-382
US-09-884-465A-378
US-09-252-088-16
US-09-252-088-15
US-09-765-272-182
US-09-884-465A-8
US-09-765-272-66
US-09-765-272-66
US-09-907-824-294
US-09-907-841-294
US-09-904-011-294
US-09-904-011-294
                                                                                                                                                                                            ij
                                                                                                                                                                                                                       SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   version - 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        model
                                                                                                                                                                                                                                     s predicted by chance to have a a score of the result being printed total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 5.1.4_p5_
Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             .DHDHEHEDENEAKDEQNHAD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  _4578
Ltd.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              36258
Sequence 10, Appli
Sequence 8, Appli
Sequence 66, Appli
Sequence 66, Appli
Sequence 86, Appli
Sequence 294, Appli
                                                                                                    Sequence 6, Appli
Sequence 379, App
Sequence 381, App
Sequence 382, App
Sequence 378, App
Sequence 16, Appl
Sequence 15, Appl
Sequence 182, Appl
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 cell updates/sec
                                                                                                                                                                                          Description
```

7	27 28 29 195 29 195 30 195 31 195 32 195 33 195 34 195 36 195 37 195 39 195 40 195 41 195 42 195 195 41 195 195 195 195 195 195 195 19	0 4 3 2 1 1 5 5 6 5 6 5 6 5 6 5 6 6 6 6 6 6 6 6
	444444444444444444444444444444444444444	
	1119 1119 1119 1119 1119 1119 1119 111	
	\mathcal{O}	ϕ ϕ ϕ ϕ ϕ ϕ
ALIGNMENTS	US-10-175-746-352 US-10-175-746-352 US-10-176-918-352 US-10-176-921-352 US-10-137-865-352 US-10-140-474-352 US-09-904-859-294 US-09-909-204-294 US-09-904-786-294 US-09-906-646-294 US-09-906-700-294 US-09-906-700-294 US-09-903-749A-294 US-09-903-749A-294 US-09-903-749A-294 US-09-903-786-294 US-09-903-786-294 US-09-903-786-294 US-09-903-786-294 US-09-903-786-294 US-09-903-786-294 US-09-903-786-294 US-09-903-786-294	S-09-906-742-29 S-10-121-049-35 S-10-123-904-35 S-10-140-470-35 S-09-906-838-29 S-09-907-613-29
	Sequence 294, Sequence 352, Sequence 352, Sequence 352, Sequence 294, Sequence 352, Sequence 294,	equence 29 equence 35 equence 35 equence 35 equence 29 equence 29
	Арр Арр Арр Арр Арр Арр Арр Арр	Арр Арр Арр Арр Арр

Fublication No. US20030077293A1

GENERAL INFORMATION:
APPLICANT: Shire Biochem, Inc.
APPLICANT: Hamel, Josee
APPLICANT: Hamel, Josee
APPLICANT: Martin, Denis
APPLICANT: Charland, Nathalie
APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus Antigens
FILE REFERENCE: 055190-0044

CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
SOFTWARE: PatentIn version 3.1 US-RES(US-(SOFTWARE: Paten SEQ ID NO 6 LENGTH: 1039 TYPE: PRT ORGANISM: Stre ORGANISM: Stre eptococcus pneumoniae

Db QУ Д QУ QУ рЬ QУ Query Match Best Local S Matches 185 173 345 122 286 237 Local Simi hes 185; (71 16 KSSLSGQTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI AKP-AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP SQLSYSSTASDNN--SQLTLIACQSRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT--7.2%; ilarity 21.4%; Conservative 11. AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL -TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS Score 292.5; DB 9; Pred. No. 2.1e-10; 114; Mismatches 283; Length 1039; Indels 283; Gaps 404 172 344 232 121 285 70 45;

```
δÕ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  рЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            gg
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                RESULT 2
US-09-884-465A-379
                                                                                                                                                                                                                                                                                                                              Publication
                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                    GENERAL
                                                                           SEQ ID NO 379
                                                                                      CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384 SOFTWARE: Patentin version 3.1
                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                      TITLE OF
                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                    APPLICANT:
                             ORGANISM: Artificial Sequence
OTHER INFORMATION:
              FEATURE:
                                              TYPE:
                                                            LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   508
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            894
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          839
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       618
                                                                                                                                                                                     ICANT: Ouellet, Catherine E OF INVENTION: Streptococcus REFERENCE: 055190-0044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KSNQIGQPTLPNNSLAT - - PSPSLPINPGTSH - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAKEMKDLDKKIEEKIAGIMKQYGVKRESI----VVNKEKNAIIYPHGDH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NMLVKLITPDGKVLEKVSGKVFGEGVGNIANFELDQPYLPGQTFKYTIASKDYPEVSYDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GNKVYTGEELTNVVNL - - - LKNSTFNNQNFTLANGQKRVSFSFPPELE - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GKDIPDPHAIEHARELEKHK-VGMDTLRALGFDEEVILDIVRTHDAPTPFPSNE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VMSHGDHNHYFFKKDLTE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LLMTKTGVTDYRFLD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PNMM--KEWLATVIKLDLGSRKDPLQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQ
                                                                                                                                                                                                                                                                                                                   INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPN-LSSLSINRAQLQSL--EGIEASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TFTVPTSLAYKMASQTIFYPFHAGDTYLR-VNPQFAVPKGTDALVRVFDEFHGNAYLENN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KYKNLTLVA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --PELSEREKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEI
                                                                                                                                                                                                                                                                                                                                                                                                                               GKVSTGTVENQPT - ENKPADSLPEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TSEKVEKEKLSETGNSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YKVGEIKLPIPKLNQGTTRTAGNKIPVTFMANAYLDNQSTYIVEV-PILEKENQT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SMVGNGTAEEKAAMATKAKESAQEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIAKNFPAVYEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VIVRVEAE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -KISDLS-PLASLHQ-
                                               PRT
                                                                                                                                                                                                                                                                                                                                                  379,
                                                             1152
                                                                                                                                                                                                                                                                                                                                   No.
                                                                                                                                                                                                                                                                                                   Shire Biochem,
                                                                                                                                                                                                                                             Brodeur, bearing Denis
                                                                                                                                                                                                           Charland, NaL...
Catherine
                                                                                                                                                                                                                                                                                    Hamel,
                                                                                                                                                                                                                                                                                                                                 Application US/09884465A o. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -HHADPIDEHKPVG
                                                                                                                                                                                                                                                                                    Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TIELYLPSGEV----IKKN---MADF---TGEAPQGNGENKPS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GNQIKSLVLKD-
Unknown Organism
                                                                                                                                                                                                                                                                     Bernard
                                                                                                                                                                                                                                                                                                      Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AADNGIEDIRPLGQLP-NLKFLV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                              746
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --EQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                 952
                                                                                                                                                                                                          Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -LQELHIDNNQ--ITDLSPVSHKESLTVVDLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -KQGSLTFLDVTG----NQLTSLEGVNNFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -DKPSILPQFKRNKAQENSKLDEKVEEPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -NMPQLEG----IDISQNNLKDISFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---EKHEEDGYGFDANRIIAEDESGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         IGHSHSNYELFKPEEGVAKKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --KKLGI 637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -LSNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -- KD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                H
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       553
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    275
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                928
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               721
```

```
; NAME/KEY: MISC_FEATURE
; LOCATION: (1)..(1)
OTHER INFORMATION: Xaa =
; NAME/KEY: MISC_FEATURE
; LOCATION: (344)..(344)
; OTHER INFORMATION: Xaa =
; NAME/KEY: MISC_FEATURE
; LOCATION: (345)..(345)
; OTHER INFORMATION: Xaa =
US-09-884-465A-379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Dр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                      DЬ
                                                                                                                                                                                                                                                                                                              Ωy
                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                       QУ
                                                                                                                                                                                 Db
                                                                                                                                                                                                         QΥ
                                                                                                                                                                                                                                    Db
 Qy
                           B
                                                  QУ
                                                                              B
                                                                                                    QУ
                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                         1007
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   458
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     399
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            122
                                                                                                                                                                                                                                                                                                                                                                                          667
                                                                                                                                                                                                                                                                                                                                                                                                                                              621
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       276
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               571
                                                                                                                                                                                                                                                             484
                                                                                                                                                                                                                                                                                       751
                                                                                                                                                                                                                                                                                                                                         701
                                                                                                                                                                                                                                                                                                                                                                  389
                                                                                                                                                                                                                                                                                                                                                                                                                    334
                                                                                                                                924
  722
                                                     662
                                                                              952
                                                                                                       618
                                                                                                                                                         561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SQLSYSSTASDNN-----TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -DDGFILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKG--SPFEYLIP---KGASL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SQLTLIACQSRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT-----
                                                                                                                                                                                                                                                                                      GNKVYTGEELTNVVNL----KKLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VMSHGDHNHYFFKKDLTE------EQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP
                                                                                                                                                                                                                                                              KYKNLTLVA---
                                                                                                                                                                                                                                                                                                              LLMTKTGVTDYRFLD----
                                                                                                                                                                                                                                                                                                                                                                                                                                             AKP--
                                                                                                    VIVRVE
                                                                                                                                                       RNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPN-LSSLSINRAQLQSL--EGIEASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KSSLSG
                                                  ALDIL
                                                                                                                                                                                                                                                                                                                                                                  PNMM-
SMVGNGTAEEKAAMATKAKESAQEA 746
                                                                              TSEKV
                                                                                                                                                                                   YKVGE
                                                                                                                                                                                                                                     TFTVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --PELSEREKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      7.2%; Score 292.5; DB 9;
11 Similarity 21.4%; Pred. No. 2.4e-10;
185; Conservative 114; Mismatches 283;
                                                                                                                                                                                                            -KISDI
                                                   SVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIAKNFPAVYEG
                                                                              EKEKLSETGNSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDG-----
                                                                                                                                                                                LS-PLASLHQ---
                                                                                                                                                                                                                                   | : |
| SLAYKMASQTIFYPFHAGDTYLR-VNPQFAVPKGTDALVRVFDEFHGNAYLENN
                                                                                                                                                                                                                                                                                                                                                                  KEWLATVIKLDLGSRKDPLQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQ 446
                                                                                                       EAE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL
                         -TIELYLPSGEV----IKKN---MADF---TGEAPQGNGENKPS--EN
                                                                                                       -GNQIKSLVLKD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Proline or nothing
                                                                                                                                                                                                                                                           ---AADNGIEDIRPLGQLP-NLKFLV----
                                                                                                                                 ------DKPSILPQFKRNKAQENSKLDEKVEEPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Or
                                                                                                                                                                                                                                                                                                                -----NMPQLEG----IDISQNNLKDISFLS 483
                                                                                                                                                                                                           --LQELHIDNNQ--ITDLSPVSHKESLTVVDLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   or nothing
                                                                                                       --KQGSLTFLDVTG----NQLTSLEGVNNFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 1152;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                               ----LSNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    570
                                                                                                                                                                                                                                         869
                                                                                                                                                                                                                                                                                                                                                                                              700
                                                                                                                                                                                                                                                                                                                                                                                                                        388
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   620
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           275
                                                                                                                                                            617
                                                                                                                                                                                      923
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45;
```

RESULT US-09-8

-09-884-465A-381

Вb

1042 GKVSTGTVENQPT-ENKPADSLPEA 1065

```
B
                                                                                             g
                                                                                                                       δÃ
                                                                                                                                                     В
                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                        Вp
                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                             δõ
                                                              Ş
                                                                                                                                                                                 80
                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US-09-884-465A-381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Charland, Nathalie
APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus Antigens
FILE REFERENCE: 055190-0044
CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
SOFTWARF: Datacata
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 381, Application US/09884465A Publication No. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn version 3.1 EQ ID NO 381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: MISC_FEATURE LOCATION: (431)..(431) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: MISC_FEATURE LOCATION: (1)..(1) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: MISC_FEATURE LOCATION: (430)..(430) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FEATURE:
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       LENGTH:
      389
                                                                                             707
                                                                                                                                                                                                                                           173
                                                                                                                                                                                                                                                                        544
                                                                                                                                                                                                                                                                                                                                  485
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                       16
                                                                                                                                                                                                                                                                                                                       PNMM--KEWLATVIKLDLGSRKDPLQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQ 446
                                                                                     LVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQT--
                                                                                                                                                                                                                                   KSSLSGQTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI
                                                                                                                                                                                                                                                                  AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRT
                                                          GKDIPDPHAIEHARELEKHK-VGMDTLRALGFDEEVILDIVRTHDAPTPFPSNE--
                                                                                                                                                   VMSHGDHNHYFFKKDLTE--
                                                                                                                                                                                                           KSNQIGQPTLPNNSLAT -- PSPSLPINPGTSH---
                                                                                                                                                                                                                                                                                                                                                                                    SQLSYSSTASDNN-----TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS
                                                                                                                                                                                                                                                                                                     AKP--
                                                                                                                                                                                                                                                                                                                                                                                                                  SQLTLIACQSRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT--
                                                                                                                                                                                                                                                                                                                                                        -DDGFILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKG--SPFEYLIP---KGASL---
                                                                                                                  --PELSEREKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                    185;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1238
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Martin,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brodeur,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Hamel,
                                                                                                                                                                                                                                                                                                                                                                                                                                                7.28; larity 21.48; Conservative 11
                                 -HHADPIDEHKPVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem,
                                                                                                                                                                                                                                                                                           AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Denis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Proline or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                               b; Score 292.5; DB 9
b; Pred. No. 2.7e-10;
114; Mismatches 283
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Score
                                                                                                                                              ---EQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nothing
                                                                                                                                                                                                         --EKHEEDGYGFDANRIIAEDESGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DB 9;
                               IGHSHSNYELFKPEEGVAKKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                  283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length 1238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                               283;
                                                           --KD
                                                                                                                                                                                                                                                                                                                                                                                                                                             Gaps
                               786
                                                                                                                                                706
                                                                                                                                                                                                                                                                                              172
                                                          388
                                                                                       752
                                                                                                                                                                                                         656
                                                                                                                                                                                                                                      232
                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                      484
                                                                                                                                                                                                                                                                  603
                                                                                                                                                                                                                                                                                                                                                                                                                  70
                                                                                                                                                                             275
                                                                                                                                                                                                                                                                                                                                                                                                                                             45;
```

```
QУ
                                                                                             US-09-884-465A-38
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US-09-884-465A-382
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                        Query
Best I
                                           Matches
                                                                                                                                                                                                                                                                                        SRO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Publication No. US20
GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                     CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683
                                                                                                       NAME/KEY: MISC_
LOCATION: (558)
OTHER INFORMATI
                                                                                                                                                                                                                                                                                                     SOFTWARE:
                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: 60/:
PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                               NUMBER OF SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                 FILE REFERENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                           NAME/KEY: MISC_FEATURE LOCATION: (557)..(557) OTHER INFORMATION: Xaa
                                                                                                                                                                                 NAME/KEY: MISC_FEATURE LOCATION: (1)..(1) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                         FEATURE:
OTHER INFORMA
                                                                                                                                                                                                                                              ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                TYPE: PRT
                                                                                                                                                                                                                                                                          LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1128
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1093
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1038
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1010
                                                                                                                                                                                                                                                                         TWARE: PatentIn version 3.1 ID NO 382 PAGTH: 1365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       722
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          662
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             618
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        956
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           897
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              837
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      447
                  16
                                                       Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               787
                                                                   Match
SQLTLIACQSRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GKVSTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 al Simi:
185; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SMVGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TSEKVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VIVRVE.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPN-LSSLSINRAQLQSL--EGIEASS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KYKNLT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NMLVKLITPDGKVLEKVSGKVFGEGVGNIANFELDQPYLPGQTFKYTIASKDYPEVSYDG 896
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GNKVYTGEELTNVVNL---LKNSTFNNQNFTLANGQKRVSFSFPPELE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ALDILS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TFTVPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLMTKTGVTDYRFLD - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               382,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -KISDLS-PLASLHQ--
                                                                                                                                                                                                                                                                                                                                                                                             INVEN
                                                                                                                                                                                                                                                                                                                                                                                       Hame Berne Brodeur, Berne Brodeur, Berne Martin, Denis Charland, Nathalie Charlet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                          Hamel, Josee
                                       7.2%;
nilarity 21.4%;
Conservative 114
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Application US/09884465A
. US20030077293A1
                                                                                           58)..(558)
ATION: Xaa
82
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVA--
                                                                                                                                                                                                                                                                                                                                                                              rellet, Catherine
NTION: Streptococcus
3: 055190-0044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TVENQPT-ENKPADSLPEA 1151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    VSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIAKNFPAVYEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SLAYKMASQTIFYPFHAGDTYLR-VNPQFAVPKGTDALVRVFDEFHGNAYLENN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TAEEKAAMATKAKESAQEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KEKLSETGNSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDG
                                                                                                                                                                                                                         TION: Unknown
                                                                                                                                _FEATURE
                                                                                                                                                                                                                                                                                                                  NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochem, Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -GNQIKSLVLKD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -TIELYLPSGEV----IKKN---MADF---TGEAPQGNGENKPS--
                                                                                                                                                                                                                                                                                                                  384
                                                                                                      Proline or nothing
                                                                                                                                           Glycine or nothing
                                                                                                                                                                                   Methionine
                                       2%; Score 292.5; DB
1%; Pred. No. 3e-10;
114; Mismatches 2
                                                                                                                                                                                                                       Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -AADNGIEDIRPLGQLP-NLKFLV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    746
                                                                                                                                                                                                                                                                                                                                                                                          Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --LQELHIDNNQ--ITDLSPVSHKESLTVVDLS
                                                                                                                                                                                or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --KQGSLTFLDVTG----NQLTSLEGVNNFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --DKPSILPQFKRNKAQENSKLDEKVEEPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -NMPQLEG----IDISQNNLKDISFLS
                                                               DB 9;
                                       283;
                                       Indels
                                                               Length 1365;
                                       283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --KKLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -LSNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ħ
                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1037
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      955
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1009
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             836
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1092
                                       45;
```

QУ

AKP-

Дb

671

Ş

Вр

80

밁

784

VMSHGDHNHYFFKKDLTE - -

Qγ

447

LLMTKTGVTDYRFLD--

Db

964

В

δõ

Db

--HHADPIDEHKPVG---

δÃ

334

멍

VО

DЬ

612

Qγ

71

В

SQLSYSSTASDNN-

```
PNMM--KEWLATVIKLDLGSRKDPLQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   {\tt KSSLSGQTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AKPNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GNKVYTGEELTNVVNL---LKNSTFNNQNFTLANGQKRVSFSFPPELE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -DDGFILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKG--SPFEYLIP---KGASL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 YKVGEIKLPIPKLNQGTTRTAGNKIPVTFMANAYLDNQSTYIVEV-PILEKENQT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TFTVPTSLAYKMASQTIFYPFHAGDTYLR-VNPQFAVPKGTDALVRVFDEFHGNAYLENN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GKDIPDPHAIEHARELEKHK-VGMDTLRALGFDEEVILDIVRTHDAPTPFPSNE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAKEMKDLDKKIEEKIAGIMKQYGVKRESI---VVNKEKNAIIYPHGDH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    KSNQIGQPTLPNNSLAT -- PSPSLPINPGTSH -- -- EKHEEDGYGFDANRIIAEDESGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NMLVKLITPDGKVLEKVSGKVFGEGVGNIANFELDQPYLPGQTFKYTIASKDYPEVSYDG
                                                                                                                                                                                                                                                                                                                                                                                                   TSEKVEKEKLSETGNSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  RNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPN-LSSLSINRAQLQSL--EGIEASS
                                                                                                                                                                                                                                                                                                                                                                   ALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIAKNFPAVYEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -PELSEREKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS
US/09/884,465A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -AADNGIEDIRPLGQLP-NLKFLV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -----EQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPG
                                                                                                                                                                                                                                                                                                                                   ---IKKN---MADF--
                               Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -LQELHIDNNQ--ITDLSPVSHKESLTVVDLS
                                                                                                                                                                                                                                                                                                                                                                                                                                    -- KQGSLTFLDVTG ---- NQLTSLEGVNNFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ---DKPSILPQFKRNKAQENSKLDEKVEEPK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -NMPQLEG----IDISQNNLKDISFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --IGHSHSNYELFKPEEGVAKKE
                                                                                                                                                                                                                                                                                                                                   -TGEAPQGNGENKPS--EN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KKLGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LSNN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        611
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       783
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        833
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        730
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       913
                                                                                                                                                                                                                                                                                                                                       1254
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      560
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1082
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      518
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       963
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        388
                                                                                                                                                                                                                                                                                                                                                                                                                                       661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1023
                                                                                                                                                                                                                                                                                                                                                                                                        1219
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY: MISC_FEATURE; LOCATION: (571)..(571); OTHER INFORMATION: Xaa US-09-884-465A-378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                     У
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ър
                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                 QУ
                                                                                                  Ωy
                                                                                                                                     뮰
                                                                                                                                                                                                      DЬ
    Вp
                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                      Db
                                                                   B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SOFTWARE: PatentIn version 3.1 SEQ ID NO 378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Best Local
Matches 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: MIS
LOCATION: (1)
OTHER INFORMA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LOCATION:
OTHER INFO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Ar
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: MI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                     1037
    1150
                                                                   1096
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        576
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     625
                                                                                                   519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         744
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       684
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       122
                                                                                                                                                                      484
                                                                                                                                                                                                       977
                                                                                                                                                                                                                                       447
                                                                                                                                                                                                                                                                        927
                                                                                                                                                                                                                                                                                                                                       893
                                                                                                                                                                                                                                                                                                                                                                        334
                                                                                                                                                                                                                                                                                                                                                                                                        847
                                   561
                                                                                                                                                                                                                                                                                                        389
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRT
                                                                                                                                                                                                     NMLVKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       AKP--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ESDGLVF-DPAKIISRTPNGVAIPHGDHYHFIPYSKLSALEEKIARMVPISGTGSTVSTN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQLSYSSTASDNN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       INFORM
                                                                                                                                                                                                                                                                                                                                                                                                       LVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQT-----
                                                                                                                                   TFTVPTSLAYKMASQTIFYPFHAGDTYLR-VNPQFAVPKGTDALVRVFDEFHGNAYLENN 1095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VMSHGDHNHYFFKKDLTE --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      KSNQIGQPTLPNNSLAT -- PSPSLPINPGTSH-----EKHEEDGYGFDANRIIAEDESGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AKPNE\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQLTLI
                                                                                                                                                                                                                                       LLMTKTGVTDYRFLD--
                                                                                                                                                                                                                                                                                                        PNMM-
                                                                                                                                                                                                                                                                                                                                                                      GKDIPDPHAIEHARELEKHK-VGMDTLRALGFDEEVILDIVRTHDAPTPFPSNE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       KSSLS(
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -DDGFILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKG--SPFEYLIP---KGASL---
                                                                   YKVGE
                                                                                                                                                                      KYKNLTLVA--
                                                                                                                                                                                                                                                                       GNKVY
                                  RNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPN-LSSLSINRAQLQSL--EGIEASS
                                                                                                    -KISD
                                                                                                                                                                                                                                                                                                                                                                                                                                     --PELSEREKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     7.2%; Score 292.5; DB 9; 1 Similarity 21.4%; Pred. No. 3.1e-10; 185; Conservative 114; Mismatches 283;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        (1) . . (1) ATION:
                                                                  IKLPIPKLNQGTTRTAGNKIPVTFMANAYLDNQSTYIVEV-PILEKENQT--
                                                                                                                                                                                                       LITPDGKVLEKVSGKVFGEGVGNIANFELDQPYLPGQTFKYTIASKDYPEVSYDG 1036
                                                                                                                                                                                                                                                                                                       -KEWLATVIKLDLGSRKDPLQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQ 446
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3QTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VSSLGSLSSNPSSLTTSKELSSASDGYIFNPKDIVEETATAYIVRHGDHFHYIP
                                                                                                    LS-PLASLHQ---
                                                                                                                                                                                                                                                                        TGEELTNVVNL---LKNSTFNNQNFTLANGQKRVSFSFPPELE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ACQSRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ----AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       70)..(570)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          tificial Sequence
                                                                                                                                                                                                                                                                                                                                       ----HHADPIDEHKPVG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          _FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Methionine
                                                                                                                                                                     ----AADNGIEDIRPLGQLP-NLKFLV--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Proline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -EQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPG
                                                                                                 LQELHIDNNQ--ITDLSPVSHKESLTVVDLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           or
      -DKPSILPQFKRNKAQENSKLDEKVEEPK 1177
                                                                                                                                                                                                                                       --NMPQLEG----IDISQNNLKDISFLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           nothing
                                                                                                                                                                                                                                                                                                                                           ----IGHSHSNYELFKPEEGVAKKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            283;
                                                                                                                                                                          --LSNN
                                                                                                                                                                                                                                                                           -KKLGI
                                                                                                                                                                                                                                                                                                                                                                           --KD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           624
                                                                                                                                                                                                                                                                           976
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          846
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          743
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           121
                                                                                                                                                                         518
                                                                                                                                                                                                                                                                                                                                                                           388
                                                                                                                                                                                                                                                                                                                                                                                                                                           3
3
3
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          232
                                       617
                                                                                                         560
                                                                                                                                                                                                                                                                                                                                           926
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          275
                                                                       1149
                                                                                                                                                                                                                                                                                                                                                                                                           892
                                                                                                                                                                                                                                           483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            45;
```

RESULT

Sequence 378, A Publication No. -09-884-465A-378 Sequence 378, Ap

Application US/09884465A o. US20030077293A1

GENERAL INFORMATION:

APPLICANT: Shire Biochem,

Inc

APPLICANT:

Brodeur, Hamel,

Bernard

Josee

Martin,

Denis

APPLICANT:

APPLICANT: Charland, Nathalle APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus FILE REFERENCE: 055190-0044

CURRENT

REFERENCE: 055190-0044 ENT APPLICATION NUMBER:

밁

1255

GKVSTGTVENQPT-ENKPADSLPEA

1278

SMVGNGTAEEKAAMATKAKESAQEA

746

-TIELYLPSGEV-

δĀ

Š

VIVRVEAE - -

-GNQIKSLVLKD-

멍

1137

20

δõ

В

В

Š

-KISDLS-PLASLHQ-

В

1024

Š

484

KYKNLTLVA--

g

```
Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: MARTIN, Denis

APPLICANT: MARTIN, Denis

TITLE OF INVENTION: NOVEL GROUP B STREPTOCUC

FILE REFERENCE: 8331-9002

CURRENT APPLICATION NUMBER: US/09/252,088

CURRENT FILING DATE: 1999-02-18

EARLIER APPLICATION NUMBER: US/60/075,425

EARLIER FILING DATE: 1998-02-20

NUMBER OF SEQ ID NOS: 44
                                  В
                                                                                        망
                                                                                                                 Ş
                                                                                                                                              밁
                                                                                                                                                                        Ş
                                                                                                                                                                                                    D
                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                          DЬ
                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                       8
                                                                                                                                                                                                                                                                                                                                                                                               S
S
                                                                                                                                                                                                                                                                                     Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT 6
US-09-252-088-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                                                                                                                                                          Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Sequence 16, Ap
Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION: APPLICANT: BRODEUR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ORGANISM: group 09-252-088-16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1268
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1178
       326
                                 374
                                                                                                                                                                                                                               142
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         618
                                                                                                                                                                                                                                                                                                                86
                                                                                                                                                                                                                                                                                                                                           83
                                                                                                                                                                                                                                                                                                                                                                      26
                                                                                                                                                                                                                                                                                                                                                                                                 ಬ
8
                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRT
                                                                                                                                                                                                                                                   GARPSDYRPTPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKG
                                                                                                             QGIVGVTKDSILVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQTPELSER
                                                                                                                                          MELADRYLAGQTEDNDSGSEHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSK
                                                                                                                                                                                                                                                                                   LAKPAVAQRAASQGTSKVADP-
                                                                                                                                                                                                                                                                                                         NGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQG
                                  LDQEQGK - -
                                                        EKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPH--HDHAHV-
                                                                                                                                                                                                KTFKELLDQLHRLDLKYRHVEEDGLIFEPTQVIKSNAFGYVVPHGDHYHIIPRSQLSPLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GKVSTGTVENQPT-ENKPADSLPEA
    -LMLSDIEIGK-DIPD--
                                                                                      ESIHSVDKSGVTAKHGDHFHYIGFGEL-
                                                                                                                                                                                                                                                                                                                                       -FPTDDGFILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKGSPFE--
                                                                                                                                                                                                                                                                                                                                                                                                 NGTY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TSEKVEKEKLSETGNSTSNSTLEEVPTVDPVQEKVAKFAESYGMKLENVLFNMDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SMVGNGTAEEKAAMATKAKESAQEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIPEAIAKNFPAVYEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VIVRVEAE-
                                                                                                                                                                                                                                                                                                                                                                                                                            146;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         715
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RIOUX, Clment
BOYER, Martine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           CHARLEBOIS,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   BRODEUR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09252088
                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US20030031682A1
                                                                                                                                                                       -GQTQAQAKQVATRLPQTSSLVST-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                          -EKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Bernard R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -TIELYLPSGEV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -GNQIKSLVLKD-
                                                                                                                                                                                                                                                                                                                                                                                            -PIKTKQSRKGMTSNKIKPIKKSKKTNKTH---KGVAGVD--
                                                                                                                                                                                                                              -HHHYE--
                                                                                                                                                                                                                                                                                                                                                                                                                                      19.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Isabelle
--PHAIEHARELEKH--KVGMDTLRALGFDEEVILDIVRTHD
                                                                                                                                                                                                                                                                                                                                                                                                                        86;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 241; DB 9;
Pred. No. 2.3e-07;
                                                                                                                                                                                                                         --FNPADIVAEDALGYTVRHDDHFHYILKSSLS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1291
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        746
                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -- IKKN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 STREPTOCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -KQGSLTFLDVTG----NQLTSLEGVNNFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --MADF---TGEAPQGNGENKPS--
                                                                                 --EQYELDEVANWVKAKGQADELAAA
                                                                                                                                                                    -- ATANGIPGLHFPTSDGFQFNG
                                                                                                                                                                                                                                                                                                                                                                                                                         261;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                     715;
                                                                                                                                                                                                                                                                                                                                       -YLIPKGAS
                                                                                                                                                                                                                                                                                                                                                                                                                         240;
                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
 377
                              428
                                                         325
                                                                                                              281
                                                                                                                                         322
                                                                                                                                                                                                                                                                                                             142
                                                                                                                                                                                                                                                                                                                                       120
                                                                                                                                                                                                                                                      202
                                                                                                                                                                                                                                                                                 141
                                                                                                                                                                                                                                                                                                                                                                 85
                                                                                                                                                                                                                           177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            721
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   661
                                                                                                                                                                                                                                                                                                                                                                                                                         26;
```

```
Db
                                                 QУ
                                                                           DЪ
                                                                                                QУ
                                                                                                                        DЪ
                                                                                                                                               QΥ
                                                                                                                                                                                              QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   RESULT 7
US-09-25
  QУ
                                                                                                                                                                       Db
                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                   ; ORGANISM: group US-09-252-088-15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VО
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                Best
                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                  SEQ ID NO 15
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION: APPLICANT: BRODEUR,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sequence 15, Appropriation No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT: HAMI
APPLICANT: MARI
TITLE OF INVENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                       FILE REFERENCE: 8331-9002
CURRENT APPLICATION NUMBER: US/09/252,088
CURRENT FILING DATE: 1999-02-18
EARLIER APPLICATION NUMBER: US/60/075,425
                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                   EARLIER APPLIC
                                                                                                                                                                                                                                                                                                                                                                                       NUMBER OF SEQ
                                                                                                                                                                                                                                                                                                                                                   LENGTH:
                                                                                                                                                                                                                                                                                                                                            TYPE:
                                                  178
    222
                           341
                                                                                                 142
                                                                                                                        221
                                                                                                                                                121
                                                                                                                                                                        164
                                                                                                                                                                                                                      104
                                                                          281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   670
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       466
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                527
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              429
                                                                                                                                                                                               89
                                                                                                                                                                                                                                              28
                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2-088-15
                                                                                                                                                                   PRT
    QGIVGVT
                       MELADRYLAGQTEDNDSGSEHSKPSDKEVTHTFLGHRIKAYGKGLDGKPYDTSDAYVFSK
                                                                    GARPSDY
                                                                                                                                                                                                                  NGNYYVYLKPGSKRKNIRTKQQIAEQVAKGTKEAKEKGLAQVAHLSKEEVAAVNEAKRQG
                                                                                                                                              LAKPAVA
                                                                                                                                                                                                                                             NGTY - -
                                                                                                                                                                                          -FPTDDGFILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKGSPFE-----YLIPKGAS 120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -DHINQLAQKANI 681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         VSHLDFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TDKPKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LASLHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ADGSSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LEGIDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TPLDKR.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    TPIKDISPVLQFKKLKQLLMTKTGVTDYRFLD--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              VPYSW-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APTPFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ELMLKD
                                                                                                                                                                                                                                                                  11 Sim:
                                                                                                                                                                                                                                                                                                                                                       793
                                                                                                                                                                                                                                                                                                                                                                          PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RIOUX, Clment
BOYER, Martine
CHARLEBOIS, Is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HAMEL,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09252088 to. US20030031682A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RTIN,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RTINKSDLSQAEWQQAQELLAKKNTG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SQNNLKDISFLSKYKNLTLVAAADNGIEDIRPLGQLPNLKFLVLSNNKISDLSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDVLAKETFVWKDGSFSIPR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSF-----VIPHIDHIHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LKNNPNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KQQADKSNENQQPSEASKEEKESDDFIDSLPDYGLDRATLE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SNEKDPNMMKEWLATV----
KDSILVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAETHQTPELSER
                                                                                                                                                                                                                                                                  5.9%;
larity 19.9%;
Conservative 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LQELHIDN-NQITDLSPVSHKESLTVVDLSRNADVDLATLQAPKLETLMVNDTK
                                                                                                                    RPTPAPGRRKAPIPDVTPNPGQGHQPDNGGYHPAPPRPNDASQNKHQRDEFKG
                                                                                                                                              QRAASQGTSKVADP----
                                                                                                                                                                                                                                                                                                                                                                                        ID NOS:
                                                --GQTQAQAKQVATRLPQTSSLVST---
                                                                                                                                                                                                                                                                                                                                                                                                   DATE: 1998-02-20
                                                                                                                                                                                                                                                                                                                               ᄧ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Jose
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Martine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --LTRDQIATVKYVMQHPEVRPDVWSK--PGHEESGSVIPNV-
                                                                                                                                                                                                                                                                                                                             streptococcus
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Denis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Bernard R.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               NOVEL GROUP B
                                                                                                                                                                                                                                          -PIKTKQSRKGMTSNKIKPIKKSKKTNKTH---KGVAGVD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         597
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Isabelle
                                                                                                                                                                                                                                                                 Score 241; DB 9;
Pred. No. 2.7e-07;
86; Mismatches 261
                                                                                                                                                                                                                                                                                                                                                                                                                                                              STREPTOCOCCUS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --IKLDLGSRKDPLQRKGLSLLPNLETLGIGF
                                              -- ATANGIPGLHFPTSDGFQFNG
                                                                                                                                                                                                                                                                 261;
                                                                                                                                                                                                                                                                                                                                                                                                                                                             ANTIGENS
                                                                                                                                                                                                                                                                                       Length 793;
                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                  240;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --DATD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NMPQ
                                                                                                                                                                                                                                                                Gaps
                       400
281
                                                                       340
                                                                                                                     280
                                                                                                                                            141
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            586
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             622
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     525
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          483
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
```

```
Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            γo
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  멂
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  망
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RESULT 8
US-09-765-272-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sequence 182, Application US/09765272 Patent No. US20020061545A1 GENERAL INFORMATION:
                                                                                            TELEFAX: (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           401
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                326
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      430
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TITLE OF INVENTION: Streptococcus NUMBER OF SEQUENCES: 452 CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                     APPLICATION NUMBER: 08/961,08 FILING DATE: <Unknown> ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                   SOFTWARE: ASCII Text CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                 COMPUTER READABLE MEDIUM TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                            TELECOMMUNICATION INFORMATION: TELEPHONE: (301) 309-8504
                                                                                                                                                                                                                                                         PRIOR
                                                                            SEQUENCE CHARACTERISTICS:
 MOLECULE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EKEYQEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPH - - HDHAHV -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ESIHSVDKSGVTAKHGDHFHYIGFGEL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TPLDKRAGMPNWQIIHSAEEVQKALAEGRFATPDGYIFDPRDVLAKETFVWKDGSFSIPR 664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       VPYSW.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VSHLDFLKNNPNL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TDKPKEKQQADKSNENQQPSEASKEEKESDDFIDSLPDYGLDRATLE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LASLHQLQELHIDN-NQITDLSPVSHKESLTVVDLSRNADVDLATLQAPKLETLMVNDTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADGSSLRTINKSDLSQAEWQQAQELLAKKNTG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIRPLGQLPNLKFLVLSNNKISDLSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TPIKDISPVLQFKKLKQLLMTKTGVTDYRFLD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APTPFPSNEKDPNMMKEWLATV---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ELMLKDKKHYRYDIVDTGIEPRLAVDVSSLPMHAGNATYDTGSSF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LDQEQGK - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -DHINQLAQKANI 759
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -LMLSDIEIGK-DIPD----PHAIEHARELEKH--KVGMDTLRALGFDEEVILDIVRTHD
                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/09/765,272 FILING DATE: 22-Jan-2001 CLASSIFICATION: <Unknown>
                                                                                                                                                                                                                                                                                                                                 OPERATING SYSTEM: MSDOS version SOFTWARE: ASCII Text
                                                                                                                                                                                                                                                                                                                                                                 TER READABLE FORM:
MEDIUM TYPE: Diskette, COMPUTER: HP Vectra 486,
                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE: Human Genom
STREET: 9410 Key West
CITY: Rockville
                                                                                                                                                        REFERENCE/DOCKET NUMBER: PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                              STATE: Maryland COUNTRY: USA
                                                                                                                          TELEPHONE:
                TOPOLOGY:
                                 STRANDEDNESS: single
                                                            LENGTH: 447 amino
                                                                                                                                                                                                                                                        APPLICATION DATA:
  TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                 20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Choi et.
                                                                                                                                                                                          Brookes,
                                                 amino
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -EKPLFDTKKVSRKVTKDGKVGYMMPKDGKDYFYARDQLDLTQIAFAEQ
                                                                                             E: (301) 309-850
(301) 309-8512
Q ID NO: 182:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -LTRDQIATVKYVMQHPEVRPDVWSK--PGHEESGSVIPNV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  597
protein
                linear
                                               acid
                                                                                            182:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genome
                                                                                                                                                                                          Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ----IKLDLGSRKDPLQRKGLSLLPNLETLGIGF
                                                                                                                                                                                                                                                                                                                                                                                  3.50 inch,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sciences,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EQYELDEVANWVKAKGQADELAAA
                                                                                                                                                                                                                                                                                                                                                     6.2
                                                                                                                                                                                                                                                                                                                                                                                   1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Antigens
                                                                                                                                                                                                                                                                                                                                                                                   storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -VIPHIDHIHV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            and Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NMPQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DATD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         604
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       429
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    561
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  377.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 506
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                325
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             700
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  747
```

```
QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ; SEQUENC US-09-765-272-18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Оy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US-09-884-465A-
                       Qγ
                                                                         Ωy
                                                                                                  Db
                                                                                                                           Qy
                                                                                                                                                     Db
                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT
 Db
                                                  В
                                                                                                                                                                                                                                                        US-09-884-465A-
                                                                                                                                                                                                                                                                                         SOFTWARE:
SEQ ID NO 1
LENGTH: 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Query Match
                                                                                                                                                                                                                 Query
Best L
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 10, Appublication No
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GENERAL INFORMATION
                                                                                                                                                                                                     Matches
                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
TITLE OF II
                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                        CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                             HILE
                                                                                                                                                                                                                                                                 TYPE: PRT
ORGANISM: St
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       213
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     381
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      321
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       262
                         143
                                                                           107
                                                  109
                                                                                                                                                                                                                Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               71
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               16
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                  49
                                                                                                                            82
                                                                                                                                                                                                                                                                                                                                                                                           CANT: Ouellet, Catherine
OF INVENTION: Streptococcus Antigens
REFERENCE: 055190-0044
                                                                                                                                                                                                                            Match
                                                                                                                                                     \omega
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -DDGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AKP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SQLSYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VMSHGDHNH 442
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LVDHDGHLH 241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ESDGL\
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KSNQIGQPTLPNNSLAT -- PSPSLPINPGTSH----EKHEEDGYGFDANRIIAEDESGF 433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SQLTLI
                       HHYEFNPADIVAEDALGYTVRHDDHFHYILKSSLSGQTQAQAK-QVATRLPQTSSLVSTA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KSSLS
                                                                                                  QIVIKITDQGYVTSHGDHYHYYNGKVPYDALFSEELLMKDPNYQLKDADIVNEVKGGYII 108
                                                                                                                                                                            YPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPTDDGFILTKDSK--
 -GYVE
                                                  KVDGK
                                                                                                                                                     YALNQHRSQENKDNNRVSYVDGSQSSQKSEN--
                                                                           --KGSPFEYLIPKGASLA----KPAVAQR----
                                                                                                                                                                                                     175; Conserv
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      75;
                                                                                                                           -ILSKTDQGIVVDHDGHSHF--
                                                                                                                                                                                                                                                                                           840
                                                                                                                                                                                                                                                                                                          10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Similarity
                                                                                                                                                                                                                                                                                                                    PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   S
                                                                                                                                                                                                                                                                                                                                                                                                                                    Brodeur, bustl
                                                                                                                                                                                                                                                                                                                                                                                                                               Martin, De Charland,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/09884465A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ILTKDSKILSKTDQGIVVDHDGHSHFIFYADLKG--SPFEYLIP---KGASL---
                                                                                                                                                                                                                                                       treptococcus
10
NPADIIEDTGNAYIVPHGGHYHYIPKSDLSASELAAAKAHLAGKNMQPSQLSYSS
                                                  YYVYL--KDAAHADNVRTKDEINRQKQEHVKDNEKVNSNVAVARSQGRYTTND--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             3QTQAQAKQVATRLPQTSSLVSTATANGIPGLHFPTSDGFQFNGQGIVGVTKDSI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        STASDNN-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ACQSRGNGTYPIKTKQSRKGMTSNKIKPIKKSKKTNKTHKGVAGVDFPT-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                               DATE: 2000-06-20
ID NOS: 384
                                                                                                                                                                                                     5.5%; Score 224.5; DB 9;
larity 19.4%; Pred. No. 3.3e-06;
Conservative 115; Mismatches 277;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DESCRIPTION: SEQ ID NO: 182:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --AVAQRAASQGTSK-VADPHHHYEFNPADIVAEDALGYTVRHDDHFHYIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                  Nathalie
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5.7%; Score 233; DB 10; 30.1%; Pred. No. 3.9e-07; ive 36; Mismatches 96
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---TQSVAKGSTS---KPANKSENLQSLLKEL--YDSPSAQRYS
                                                                                                                                                                                                                                                                  pneumoniae
                                                                                                                             ----IFYADL--
                                                                                                                                                                                                                           DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Length 447;
                                                                                                                                                 -LTPDQVSQKEGIQAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                               Length
                                                                          -AASQGTSKVADPH 142
                                                                                                                                                                                                                                840;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        42;
                                                                                                                                                                                                      Gaps
                                                                                                                                                                               - 81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 172
                                                    164
                                                                                                                              106
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          12;
                                                                                                                                                                                                        43;
```

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           8
                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вp
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              뫄
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                            RESULT 10
US-09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     日
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          밁
 succession 100
                                                                                                                                                                                                                                                                 Sequence 8, Application US/09884465A Publication No. US20030077293A1 GENERAL INFORMATION:
9-09
                                                                                                                                                                                                           APPLICANT:
                                                                CURRENT APPLICATION NUMBER: US/09/884, CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384 SOFTWARE: Patentin version 3.1
                                                                                                                                                  APPLICANT: Charland, Nathalie APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus FILE REFERENCE: 055190-0044
                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                         APPLICANT:
                           TYPE: PF
ORGANISM: Streptococcus
)9-884-465A-8
                                                       ID NO 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    584
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  494
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            370
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   334
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             297
                                                                                                                                                                                                                                                                                                                                                                    754
                                                                                                                                                                                                                                                                                                                                                                                               745
                                                                                                                                                                                                                                                                                                                                                                                                                           707
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              636
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        524
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 224
                            PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ΕA
                                                                                                                                                                                                                                                                                                                                                                                                ΕA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GDTYLR-VNPQFAVPKGTDALVRVFDEFHGNAYLENNYKVGEIKLPIPKLNQGTTRTAGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TFNNQNFTLANGQKRVSFSFPPELE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MDTLRALGFDEEVILDIVRTHDAPTPFPSNE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GVKRESI --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TPSPSLPINPGTSHEKHEEDGYGFDANRIIAEDESGFVMSHGDHNHYFFKKDLTE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PLQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQLLMTKTGVTDYRFLD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TANGIPGLHFPTS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  EVPTVDPVQEKVAKFAESYGMKLENVLFNMDG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   KVSHLDFLKNNPN-LSSLSINRAQLQSL--EGIEASSVIVRVEAE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KIPVTFMANAYLDNQSTYIVEV-PILEKENQT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADNGIEDIRPLGQLP-NLKFLV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              EGVGNIANFELDQPYLPGQTFKYTIASKDYPEVSYDGTFTVPTSLAYKMASQTIFYPFHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VADQYDPAKKAEKPAETHQT-
                                                                                                                                                                                                                                                                                                                                                                                                                                                     VTNIDISHNNISLADLKLNEQHIPEAIAKNFPAVYEGSMVGNGTAEEKAAMATKAKESAQ
                                           838
                                                                                                                                                                                                                                                                                                                                                                    755
                                                                                                                                                                                                                                                                                                                                                                                               746
                                                                                                                                                                                                                                                       Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -EQIKAAQKHLEEVKTSHNGLDSLSSHEQDYPSNAKEMKDLDKKIEEKIAGIMKQY
                                                                                                                                                                                                          Brodeur, Bern
Martin, Denis
                                                                                                                                                                                                                                        Hamel,
                                                                                                                                                                                                                                                                                                             \alpha
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LQELHIDNNQ--ITDLSPVSHKESLTVVDLSRNADVDLATLQAPKLETLMVNDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -KQGSLTFLDVTG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -DKPSILPQFKRNKAQENSKLDEKVEEPKTSEKVEKEKLSETGNSTSNSTLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  - VVNKEKNAI IYPHGDH - -
                                                                                                                                                                                                                                                   Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -NMPQLEG--
                                                                                                                                                                                                                                        Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IGHSHSNYELFKPEEGVAKKEGNKVYTGEELTNVVNL-
             pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          -DGFQFNGQGIVGVTKDSILVDHDGHLHPISFADLRQGGWAH
                                                                                                                                                                                                                                                                                                                                                                                                                           TGEAPQGNGENKPS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         --IDISQNNLKDISFLSKYKNLTLVA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -NQLTSLEGVNNFTALDILSVSKNQLTNVNLSKPNKT
                                                                                                                                                                  Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -KKLGINMLVKLITPDGKVLEKVSGKVFG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -LSNN-KISDLS-PLASLHQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --KDPNMM--KEWLATVIKLDLGSRKD
                                                                                                                                                                                                                                                                                                                                                                                                                          ENGKVSTGTVENQPT-ENKPADSLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PELSEREKEYQEKLAYLAEKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -HHADPIDEHKPVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GNQIKSLVLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TIELYLPSGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           --LKNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      \triangleright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         410
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      582
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     409
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                369
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         333
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               278
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           583
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    635
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               613
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  531
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         493
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    296
```

```
RESULT 11
US-09-765-272-56
; Sequence 56, Application US/09765272
; Patent No. US20020061545A1
; GENERAL INFORMATION:
APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ġd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вр
                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                                                      Дb
                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Võ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Simi
                                                                                                                                                                                              779
                                                                                                                                                                                                                                                                                                                                                      594
                                                                                                                                                                                                                                                                                                                                                                                     628
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              454
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            404
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          361
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   183
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           101
                                                                                                                                                                                                                              692
                                                                                                                                                                                                                                                                                                                        681
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          48
                                                                                                                                                              52
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TDDGYII
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -ðH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TSDGFQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VIKVDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IFYADL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GOKAEN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GMTSNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                PKLETLMVNDTKV----SHLDFLKNNPNLSSLSINRAQLQSLE-GIEASSVIVRVEAEGN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NNKI--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LSLLPN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PEPSPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         MDTLRA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QITSRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SSYNANPVQPRLSENHNLTVTPTYHQNQGENISSLLRELYAKPLSERHVES-DGLIFDPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TVRHDD
                                                                                                                                                                                                                                                                                                                                                                                    QIKSLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            YRFLDNMPQLEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIRPLGQLPNLKFLVLS 516
                                                                                                                                                               ETEEEA
                                                                                                                                                                                             EDENEA
                                                                                                                                                                                                                            FGNASD
                                                                                                                                                                                                                                                                                         GSLIIPHYDHYHNIKFEWFDEGLYEAPKGYSLEDLLATVKYYVE-----HPNERPHSDNG
                                                                                                                                                                                                                                                                                                                        PNKTVT
                                                                                                                                                                                                                                                                                                                                                                                                                    PRDITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SDKVKLVDDILAFLAPIRHPERLGKPNAQITYTD----DEIQVAKLAGKYTTEDGYIFD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              YDLLAR
                                                                                                                                                                                                                                                           NGTAEE
                                                                                                                                                              EDTTDEAE 765
                                                                                                                                                                                                                                                          KAAMATKAKESAQEASESHDYNHNHTY---EDEEGHAHEHRDKDD----HDHEH
                                                                                                                                                                                                                                                                                                                                                    --DHQDS-----GN--TEAKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKN
                                                                                                                                                                                                                                                                                                                                                                                                                  DEGDAYVTPHMTHSHWIKKD-SLSEAERAAAQAYAKEKGLTPPST--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --SDLSPLASLHQLQELHIDNNQITDLSPVSHKESLTVVDLSRNADVDLATLQA 572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ARGVAVPHGNHYHFIPYEQMSELEKRIARIIPLRYRSNHWVPDSRPEQPSPQST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --GLEYPHHDHAHVL---MLSDIE--IGKDIP----DPHAIEHAR-ELEKHKVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELA-AAEAYWNGKQGSRPSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KYYVYLKDAAHADNIRTKEEIKRQKQEHSHNHNSRADNAVAAARAQG----RYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           IKPIKKSKKTNKTHKGVAGVDFPTDDGFILTKDSKILSKTDQGIVVDHDGHSHF 100
                                                                                                                                                                                              KDEQNHAD 792
                                                                                                                                                                                                                            HVRKNKADODSKPDEDKEHDEVSEPTHPESDEKENHAGLNPSADNLYKPSTDTE
                                                                                                                                                                                                                                                                                                                       NIDISHN---
                                                                                                                                                                                                                                                                                                                                                                                    LKDKQGSLTFLDVTGNQLTSLEGV - - - NNFTALDILSVSK - - - NQLTNVNLSK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              IHQ----DLLDNKGRQVDF-----EVLDNLLERLKD---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LETLGIGETPIKDISPV----LQFKKLKQ-LLMTKTGV--TD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LGFDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKLDLGSRKDPLQRKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --TPELSER-----EKEYQEKLAYLAEKLGIDPSTIKRVETQDGKL----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FNGQGIVGVTKDSILVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HFHYILKSSLSGQTQAQAKQVATRLPQTS-----SLVSTATANGIPGLHFP 212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KGSPFEYLIPKGASLAKPAVAQRAASQGTSKVADPHHHYEFNPADIVAEDALGY 160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LTPDEVSKREG-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     5.5%; Score 224; DB 9; Length 838; larity 20.3%; Pred. No. 3.5e-06; Conservative 122; Mismatches 321; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---YNGKVPYDAIISEELL---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ----RYIPAKDLSAETAAGIDSKLAKQESLSHKLGAKKTDLPSSDREFYNKA 453
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----QPAPNPQPAPSNPIDEKLVKE---AVRKVGDGY---VFEENG 403
                                                                                                                                                                                                                                                                                                            ---NISLADLKLNEQHIPEATAKNFPAVYEGSMVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----INAEQIVIKITDQGYVTSHGDHYHY 89
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ----MKDP--NYQLKDSDIVNEIKGGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels 238;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               488
                                                                                                                                                                                                                                                                                                                                                                                                                                                   627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         360
```

al. Streptococcus

pneumoniae Antigens

and Vaccines

; MOLECULI ; SEQUENCI US-09-765-272-66	QY 387 KDPNMMKEWLATVIKLDLGSRKDPLQRKGLSLLPNL-ETLGIGFTPIKDISPVLQFKKLK 445 : : : : : : : : :
	5 ERIARIIPLRYRSNHWVPDSRPEQPSPQPTP
	333IGKDIPDPHAIEHARELEKHKVGMDTLRALGFDEEVILDIVRTHDAPTPFPSNE 38
	QY 287 EKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIE 332 ;; ; ; ; ;
	211 FLSGRGNLSNSRTYRRQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQSNDID 26
	QY 249RQGGWAHVADQYDPAKKAEKPAETHQTPELSEREKEYQ 286
; PRIOR APPLICATION FILE	Qy 199 STATANGIPGLHFPTSDGFQFNGQGIVGVTKDSILVDHDGHLHPISFADL 248 : : :
	Qy 150 ADIVAEDALGYTVRHDDHFHYILKSSLSGQTQAQAKQVATRLPQTSSLV 198
	Qy 90 IVVDHDGHSHFIFYADLKGSPFEYLIPKGASLAKPAVAQRAASQGTSKVADPHHHYEFNP 149
	: : : : : : : : : :
	ches 168; Conservative 116; Mismatches 27
	Match 5.5%; Score 223; ocal Similarity 19.5%; Pred. No. 3
	72-56
GEN	MOLECU
Seque	ANDEDNESS:
OLT.	SEQUENCE CHARACTERIS LENGTH: 796 ami
Db 652 APNGYT	TELEFAX: (301) 309-8512 ATION FOR SEQ ID NO: 56:
ОУ 777	TELECOMMUNICATION INFORMATION: TELEPHONE: (301) 309-8504
Db 592 TGDSAA	REGISTRATION NUMBER: 36
Oy 728 TAEEKA	ATTORNEY/AGENT INFORMATION NAME: Brookes, A. And
Db 545 YVTPHM	APPLICATION NUMBE
Qy 673 LINVNL	CLASSIFICATION: <unknow application="" data:<="" prior="" td=""></unknow>
Db 506	APPLICATION NUMBER
Qy 613 IEASSV	SOFTWARE: ASCII Text CURRENT APPLICATION DATA:
Db 483 KLVD	COMPUTER: HP Vectra 486/33 OPERATING SYSTEM: MSDOS version 6.2
Qy 553 SLTVVD	COMPUTER READABLE FORM: MEDIUM TYPE: Diskette, 3.
Db 434 PRDQEF	COUNTRY: USA
Qy 503 PLGQ	CITY: Rockville
Db 388VFEE	ADDRESSEE: Human Genome Sci
Qy 446 QLLMTK	NUMBER OF SEQUENCES:

```
PUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.4mb storage
COMPUTER: HP Vectra 486/33
OPERATING SYSTEM: MSDOS version 6.2
SOFTWARE: ASCII Text
RENT APPLICATION NUMBER: US/09/765,272
FILING DATE: 22-Jan-2001
CLASSIFICATION: <Unknown>
OR APPLICATION NUMBER: .08/961,083
FILING DATE: <Unknown>
FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US20020061545A1
US20020061545A1
INFORMATION:
INFORMATION:
STREET: 9410 Key West Avenue
CITY: Rockville
                                                         RNEY/AGENT INFORMATION:
NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB34
COMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
ON FOR SEQ ID NO: 66:
ENCE CHARACTERISTICS:
LENGTH: 763 amino acids
TYPE: amino acid
STRANDEDNESS: single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    COUNTRY: US
OE
CE
                             OPOLOGY: linear
LE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   TATE: Maryland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDHTYK 651
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MGH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VIVRVEAEGNQIKSLVLKDKQGSLTFLDVTGNQLTSLEGVNNFTALDILSVSKNQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         FYDKAYNLLTEAHKALFXNKGRNSDFQALDKL--LERLNDES--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TLEDLFATIKYYVEHPDE 674
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AAMATKAKESAQEASESHDYNHNHTYEDEEGHA----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LSKPNKTVTNIDISH--NNISLADLKLNEQHIPEAIAKN---FPAVYEGSMVGNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               DLSRNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNPNLSSLSINRAQLQSLEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -SQIEYTEDEVRIAQLADK--
                 DESCRIPTION: SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --LPNL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -DLLAFLAP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -KFLVLSNNKISDLSPLASLHQLQELHIDNNQITDLSPVSHKE 552
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SHWIGKDSLSD---KEKVAAQAYTKEKGILPPSPDADVKANP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 EHEDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 781
               ID NO:
                                                                                                                                                                                                   PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -ITHPERL-GKPN-
                 66:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --YTTSDGY-IFDEHDIISDEGDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -HEHRDK----DDHDH-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antigens and Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---TNKE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 612
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 591
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 672
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                544
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  505
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                482
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                433
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                502
```

Length 763;

```
RESULT 13
US-09-801-368-86
; Sequence 86, Application US/09801368
; Patent No. US20020128250A1
; GENERAL INFORMATION:
; APPLICANT: Busby, Robert
; APPLICANT: Cali, Brian
; APPLICANT: Hecht, Peter
                                                                                                                                                                                                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                               Ã
                                                                                                                                                                                                                                                                                                                                                      80
                                                                                                                                                                            Ş
                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                      Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                             Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                                                                             멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 171
                                                                                                                                               733
                                                                                                                                                                                                                                                                   638
                                                                                                                                                                                                                                                                                                                                                        624
                                                                                                                                                                                                                                                                                                                                                                                                                                             470
                                                                                                                                                                                                                                                                                                                             S
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   457
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                377
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            417
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         337
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     357
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        273
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  282
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            223
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               108
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    101
                                                                                                                                    SPEESEEPQVETEKVEEKLREAED
                                                                                                                                                                         GHAHEHRDKDDHDHEHEDENEAKD
                                                                                                                                                                                                          QR - - NKN - -
                                                                                                                                                                                                                              PEAIAKNFPAVYEGSMVGNGT---AEEKAAMATKAKESAQEASESHD--YNHNHTYEDEE
                                                                                                                                                                                                                                                                                      TSLEGV----NNFTALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NNKI----SDLSPLASLHQLQELHIDNNQITDLSPVSHKESLTVVDLSRNADVDLATLQA
                                                                                                                                                                                                                                                                                                                                                                            SDKVKLVXDILAFLAPIRHPERLGKPNAQITYTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GYV--FEENGVSRYIPAKDLSAETAAGIDSKLAKQESLSHKLGAKKTDLPSSDREFYNKA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ------GLEYPHHDHAHVL---MLSDIE--IGKDIP----DPHAIEHARELEKHKVGM
|: || : :| : :| : :| | : :| : :| :
QITSRTARGVAVPHGNHYHFIPYEQMSELEKRIARIIPLRYRSNHWVPDSRPEQP-----
                                                                                                                                                                                                                                                                                                                      AKGAEAIYNRVKAAKKVPLDRMPYNLQYTVEVKNGSLIIPHYDHYHNIKFEWFD-
                                                                                                                                                                                                                                                                                                                                                        AEG--
                                                                                                                                                                                                                                                                                                                                                                                                          PKLETLMVNDTKV----SHLDFLKNNPNLSSLSINRAQLQSLE-GIEASSV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DTLRALGFDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKLDLGSRKDPLQRKGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   YDLLARIHQ----DLLDNKGRQVDF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YRFLDNMPQLEGIDISQNNLKDISFLSKYKNLTLVAAADNGIEDIRPLGQLPNLKFLVLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SLLPNLETLGIG-FTPIKDISPV----LQFKKLKQ-LLMTKTGV--TD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VIKVNGKYYVYLKDAAHADNIRTKEEIKRQKQERSHNHNSRADNAVAAARAQG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    GMTSNKIKPIKKSKKTNKTHKGVAGVDFPTDDGFILTKDSKILSKTDQGIVVDHDGHSHF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SSYNANPAQPRLSENHNLTVTPTYHQNQGENISSLLRELYAKPLSERHVES-DGLIFDPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELA-AAEAYWNGKQGSRPSSS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TSDGFQFNGQGIVGVTKDSILVDHDGHLHPISFADLRQGGWAHVADQYDPAKKAEKPAET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TVRHDDHFHYILKSSLSGQTQAQAKQVATRLPQTS-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            IFYADLKGSPFEYLIPKGASLAKPAVAQRAASQGTSKVADPHHHYEFNPADIVAEDALGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GQKAENLTPDEVSKREG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        171;
                                                                                                                                                                                                                                                               EGLYEAPKGYTLEDLLATVKYYVEHPN-ERPHS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      5.0%;
ilarity 19.8%;
Conservative 12
                                                                                                                                                                                                                                                                                                                                                       -NQIKS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -YNGKVPYDAIISEELL---
                                                                                                                                                                                                 -GQADTNQTEKPSEEKPQTEKPEEETPREEKPQSEKPESPKPTEEPEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -SPQSTPEPSPSPQPAPNPQP---APSNPIDEKLVKEAVRKVGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   $; Score 204; DB 10;
$; Pred. No. 5.7e-05;
125; Mismatches 314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 --EKEYQEKLAYLAEKLGIDPSTIKRVETQDGKL--
                                                                                                                                               756
                                                                                                                                                                           786
                                                                                                                                                                                                                                                                                                                                                     -LVLKDKQGSL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---EALDNLLERLKD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---MKDP--NYQLKDSDIVNEIKGGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INAEQXVIKITDQGYVTSHGDHYHY
                                                                                                                                                                                                                                                                                                                                                                                                                                        -DEIQVAKLAGKYTTEDGYIFD
                                                                                                                                                                                                                                                               DNGFGNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -SLYSTATANGIPGLHFP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Indels
                                                                                                                                                                                                                                                                                                                                                  -TFLDVTGNQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   254;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ·-RYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -VX
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                              680
                                                                                                                                                                                                                                762
                                                                                                                                                                                                                                                                                                                                                  651
                                                                                                                                                                                                                                                                                         707
                                                                                                                                                                                                                                                                                                                                                                                                          623
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    572
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          434
                                                                                                                                                                                                                                                                                                                     637
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      456
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          356
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   107
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        163
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              160
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           70
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  43;
```

```
밁
                            QУ
                                                                                                        DЪ
                                                                                                                                                                                   QУ
                                                        DЪ
                                                                               Qy
                                                                                                                                 QУ
                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                           묤
                                                                                                                                                                                                                                                                                                                  멍
                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Qу
                                                                                                                                                                                                                                                                                                                                                                                                                       д
                                                                                                                                                                                                                                                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; ORGANISM: Saccharomyces cerevisiae US-09-801-368-86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/
CURRENT FILING DATE: 2001-03-0
PRIOR APPLICATION NUMBER: US 09
PRIOR FILING DATE: 2000-01-19
PRIOR APPLICATION NUMBER: US 60
PRIOR FILING DATE: 1999-10-20
NUMBER OF SEQ ID NOS: 440
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE
CURRENT APPLICA
CURRENT FILTER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT:
TITLE OF I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LENGTH:
     1013
                              546
                                                                                486
                                                                                                         906
                                                                                                                                                          847
                                                                                                                                                                                   403
                                                                                                                                                                                                             788
                                                                                                                                                                                                                                                              728
                                                                                                                                                                                                                                      347
                                                                                                                                                                                                                                                                                        313
                                                                                                                                                                                                                                                                                                                 680
                                                                                                                                                                                                                                                                                                                                         254
                                                                                                                                                                                                                                                                                                                                                                  623
                                                                                                                                                                                                                                                                                                                                                                                           194
                                                                                                                                                                                                                                                                                                                                                                                                                    569
                                                                                                                                                                                                                                                                                                                                                                                                                                             151
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  34
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Local Similarity 19.0 Local Similarity 19.0 Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NO
     EDT
                       SPVSHKESLTVVDLSRNADVDLATLQAPKLETLMVNDTKVSHLDFLKNNP-NLSSLSINR 604
                                                                              KNLTLV
                                                      VKLAKMI
                                                                                                                                  PIKDIS
                                                                                                                                                           MVNIRA
                                                                                                                                                                                                                                 RELEKHKVGMDTLRALGFDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKL--
                                                                                                                                                                                                                                                              LSKILR
                                                                                                                                                                                                                                                                                                                                        AHVADQ
                                                                                                                                                                                                                                                                                                                                                                                                                                          DIVAEDALGYTVRHDDHFHYILKSSLSGQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RSKSRR
                                                                                                                                                                                   --DLGS
                                                                                                                                                                                                             RIMRSE
                                                                                                                                                                                                                                                                                        LG--
                                                                                                                                                                                                                                                                                                                IRIFNTDDTFTTLSCTPATT --
                                                                                                                                                                                                                                                                                                                                                                  TKSYTK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRT
                                                                                                                                                                                                                                                                                                                                                                                           TSSLVS
                                                                                                                                                                                                                                                                                                                                                                                                                    NLDGDY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KTKQSRKGMTSNKIKPIK----KSKKTNKTHKGVAGVDFPTDDGFILTKDSKILSKTDQGI 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VTAGDS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VVDHDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2026
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 86
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Madden, Kevi
Maxon, Mary
Milne, Todd
No. US200201
Royer, John
Salama, Sofi
Sherman, Ami
Silva, Jeff
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Summers, Eric rention: Methods for Improving ICE: 109272.147
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Holtzman, L.
                                                 AAADNGIEDIRPLGQLPNLKFLVLSNNKISDLSPLASLHQLQELHIDNNQITDL
                                                                                                                             PVLQFKKLKQLLMTKTGVTDY----RFLDNMPQLEGIDISQNNLKDISFLSKY-
                                                                                                                                                                                                       FVHVD-LRNMDLTTPPIIFYQHTSEIESLDVSNNANIFLPLEFIESSIKLLSLR
                                                                                                                                                                                                                                                         PTSKPILIERKLLLLNGYRKSDPLHIMGIEDLSFVFKFLFHPVTPSHFTPEQEQ
                                                                                                                                                                                                                                                                                                                                    YDPAKKAE-KPAETHQTPELSEREKEYQEKLAYLAEKLGIDPSTIKRVETQDGK
                                                                                                                                                                                                                                                                                                                                                              KFTSSSV----NMNSPDGAQSSGLLLQDEKDDEVECQLEHYYKDFSDLDPKRHYA 679
                                                                                                                                                                                                                                                                                                                                                                                      TATANGIPGLHFPTSDGFQFNGQGIVGVTKDSILVDHDGHLHPISFADLRQGGW
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NSSFV---DI----CKENVPND---SKTALDTKSVNRLKSNLAMSPPSIRYAPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HSHFIFYADLKGSPFEYLIPKGASLAKPAVAQRAASQGTSKVADPHHHYEFNPA 150
                                                                                                                                                        SKFPSNITKAYKLVSLELQRNFIRKVPNSIMKLSNLTILNLQCNELESLPAGF-
                                                                                                                                                                                    RKDP--
                                                                                                                                                                                                                                                                                                                                                                                                                    DTSSTSSS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SSIDADELDPMSPGPPSKKDSRHHHD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   herman, Amir
                                                                                                    -VELKNLQLLDLSSNKFMHYPEVINYCTNLLQ---IDLSYNKIQSLPQSTKYL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ne, Todd
US20020128250Alman,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     4.98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2001-03-07
                                                                                                                                                                                                                                                                                                                                                                                                                --LPSSSISSEDTSSCSDSSSYTNAYMEANREQDNKTPILNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US 60/160,587
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       138; Mismatches
                                                                                                                                                                                                                                                                                  --YPHHDHAHVLMLSDIE-IGKDIPDPHAIEH----A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   US/09/801,368
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          09/487,558
                                                                                                                                                                                 -LQRKGLSLLPN----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 201.5; DB 10;
Pred. No. 0.00032;
8; Mismatches 289;
--VEEIIPALKRKFNITAQGNFQISLKVGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Secondary Metabolite Production
                                                                                                                                                                                                                                                                                                                                                                                                                                          ---TQAQAKQVATR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Length 2026;
                                                                                                                                                                               ---LETLGIGFT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     - RKDNESM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       239;
                                                                                                                                                                                                                                                                                                                                                                                                                                          Od1--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
1049
                                                                                                     954
                                                                                                                                                                                                                                                                                                                                                                                                                 622
                                                                                                                              485
                                                                                                                                                                                                         846
                                                                                                                                                                                                                                                                                                            727
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     518
                                                                                                                                                       905
                                                                                                                                                                                                                                  402
                                                                                                                                                                                                                                                          787
                                                                                                                                                                                                                                                                                                                                     312
                                                                                                                                                                                                                                                                                   346
                                                                                                                                                                                                                                                                                                                                                                                                                                          193
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       \frac{3}{3}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ij
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Fungi
```

```
δÖ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -09-905-291A-294
Sequence 294, Application
Patent No. US20020160374A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Secreted and Transmembrane TITLE OF INVENTION: Acids Encoding the Same FILE REFERENCE: 10466-14
                                                                                                                                                                                                                                                                                       CURRENT APPLICATION NUMBER: US/09/905,29
CURRENT FILING DATE: 2001-07-12
PRIOR APPLICATION NUMBER: PCT/US00/04414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                          PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                       PRIOR
                                                             PRIOR
                                                                                     PRIOR
                                                                                                               PRIOR PRIOR
                                                                                                                                        PRIOR
                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                PRIOR
                                                                                                                                                     PRIOR
                                                                                                                                                                 PRIOR
                                                                                                                                                                              PRIOR
                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                    PRIOR
                                                                                                                                                                                                                              PRIOR
                                       PRIOR
                                                  PRIOR
                                                                                                    PRIOR
             PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1050
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     605
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LICANT:
                                                                                                                                                                                                  R APPLICATION NUMBER: US 60 R FILING DATE: 1999-07-07 R APPLICATION NUMBER: US 60 R FILING DATE: 1999-07-26 R APPLICATION NUMBER: US 60 R APPLICATION NUMBER: US 60 R FILING DATE: 1999-07-28
                                                                    APPLICATION NUMBER: PCT, APPLICATION NUMBER: PCT, THE DATE: 1999-10-05
                                                                                                             FILING DATE: 1999-0 APPLICATION NUMBER:
                                                                                                                                                                                                                                                                              FILING DATE:
                                                APPLICATION NUMBER: FILING DATE: 1999-1
                                                                                                                                       APPLICATION NUMBER:
                                                                                                                                                                FILING DATE: 1999-0 APPLICATION NUMBER:
APPLICATION NUMBER: FILING DATE: 1999-1
                                                                                                                                                                                          APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           AQLQSLEGIEASSVIVRVEAEGNQIKSLVLKDKQGSLTFLDVTGNQLTSL-EGVNNFTAL
                       APPLICATION NUMBER: FILING DATE: 1999-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DILSVSKNQLTNV--NLSKPNKTVTNIDISHNNI--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AVYEGSMVGNGTAEEKAAMATKAKESAQEASESHDYNHNHTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             AQLSSIPG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SSNAFGNSSLE--
                                                                                                                                                                                                                                                                                                                                                     Tumas, p. williams, P. w. and, William,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Genentech,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Gerber, Han
Gerritsen,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Fong,
                                                                                                                                                                                                                                                                                                                                                                                                                                Paoni,
                                                                                                                                                                                                                                                                                                                                                                                                                                              Pan,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gao,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Desnoyers,
Eaton, Dan
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ashkenazi, Avi
Botstein, David
                                                                                                                                                                                                                                                                                                                                                                                                                    Roy,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Gurney, Austin L.
Hillan, Kenneth, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Godowski, Paul J.
Grimaldi, Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Goddard, A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ferrara, Na
Filvaroff,
                                                                                                                                                                                                                                                                                                                                                                                                          Stewart,
                                                                                                                                                                                                                                                                                                                                                                                                                                                           Kljavin, Ivar J.
Mather, Jennie P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09905291A
                                                                                                                                                     DATE:
                                                                                                                                                                                                                                                                                                                                                                                                          Margaret Ann
art, Timothy A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Wei-Qiang
                                                                                                                                                                                                                                                                                                                                                                                                                                               James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Sherman
                                                                                                                                                                                                                                                                                                                                                                                                                                   Nicholas F.
                                                                                                                                                                             1999-09-08
                                                NUMBER: PCT/US99/28214
1999-11-29
                                                                                                                                        1999-09-13
ЛИМВЕК: РСТ/US99/21090
                                                                                                                             1999-09-15
                                                                                                                                                                                                                                                                                2000-02-22
                         1999-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hanspeter
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Napoleone
f, Ellen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Luc
                                                                                                                                                                                                                                                                                                                                                                                   Mickey
                                                                                                                                                                                                                                                                                                                                                                                                                        Ann
                                                                                                               PCT/US99/21547
                                                                                                                                                                 PCT/US99/20944
                                                                                                                                                                                          PCT/US99/20594
                                                                                     PCT/US99/23089
  PCT/US99/28564
2-02
                                    PCT/US99/28313
                                                                                                                                                                                                                                                                                                                    US/09/905,291A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  H
                                                                                                                                                                                                                                          60/145,698
                                                                                                                                                                                                                                                                    60/143,048
                                                                                                                                                                                                                    60/146,222
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              --ELLTKLSFLEKLELNQNNLTRLPQEISKLTKL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -NSFYHNMSY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SLADLKLNEQHIPEATAKNFP
                                                                                                                                                                                                                                                                                                                                                          Polypeptides
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       758
                                                                                                                                                                                                                                                                                                                                                            and
                                                                                                                                                                                                                                                                                                                                                            Nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1089
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       716
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        663
```

```
RESULT 15
US-09-902-853-294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ; ORGANISM: E
US-09-905-291A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Дb
                                                                                                                                                                                                                                                                                                                                          QΥ
                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                                                                                    Db
                                                                                                                                                                                                                                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                 Db
                                                                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                  B
                                                                                                                                                                                                                                         Ωy
                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Matc
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NUMBER OF SEQ
SEQ ID NO 294
LENGTH: 1119
                                                                           Publication No. US20 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR PRIOR PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR
APPLICANT:
                         APPLICANT: APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR
                                                   APPLICANT:
                                                             APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            406
                                                                                                                                                                                                                                                                                                                                                                                                                                             463
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      100
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             286
                                                                                                                                                                                                                                                                                           591
                                                                                                                                                                                                                                                                                                                                            551
                                                                                                                                                                                                                                                                                                                                                                  248
                                                                                                                                                                                                                                                                                                                                                                                            495
                                                                                                                                                                                                                                                                                                                                                                                                                    191
                                                                                                                                                                  457
                                                                                                                                                                                         709
                                                                                                                                                                                                                 420
                                                                                                                                                                                                                                         649
                                                                                                                                                                                                                                                                  366
                                                                                                                                                                                                                                                                                                                   308
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  FILING DATE: 1999-12-20
APPLICATION NUMBER: PCT/US99/30999
FILING DATE: 1999-12-20
APPLICATION NUMBER: PCT/US00/00219
FILING DATE: 2000-01-05
R OF SEQ ID NOS: 423
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICATION NUMBER: PCT/US99/30095 FILING DATE: 1999-12-16 APPLICATION NUMBER: PCT/US99/30911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICATION NUMBER: PCT/US99/28565
FILING DATE: 1999-12-02
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LREVKI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ARELE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QEKLA
                                                                                                                                                                                                                                                                                                                                                                  DNGIEDIR--PLGQLPNLKFLVLSNNKISDLSP--LASLHQLQELHIDNNQITDLSPVSH 550
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NRIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SRKDPI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RKRLA
                                                                                                                                                                : :|:|
QWVAEN 462
                                                                                                                                                                                       EAIAKI
                                                                                                                                                                                                                 NAIMSLQG-NAFS
                                                                                                                                                                                                                                         NQLTSLEGVNNFTALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIP 708
                                                                                                                                                                                                                                                                              LKNNPNLSSLSINRAQLQSLEGIEASSVIVRVEAEGNQIKSLVLKDKQG--SLTFLDVTG
                                                                                                                                                                                                                                                                                                                  K--ESLTVVDLSRN----ADVDLATLQAPKLETLMVNDTKVSH--
                                                                                                                                                                                                                                                                                                                                                                                                                     ANTLL
                                                                                                                                                                                                                                                                LKNNEISWTIEDMNGAFSGLDKLR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      105;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              4.8%;
Similarity 21.6%;
)5; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Homo
.A-294
                                                               Genentech,
                                                                                                                                                                                                                                                                                                                                                                                                                   VLKLNRNRISAIPPKMFKLPQLQHLELNRNKIKNVDGLTFQGLGALKSLKM---Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ILPEHLKEFQSLETLDLSSNNISELQTAFPALQLKYLYLNSNRVTSMEPGYFDNL 190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQLLMTKTGVTDYR--FLDN- 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LNNNELETIPNLG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KHKVGMDTLRALGFDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKLDLG 405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RLPEPL---PSWVARLDLS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             YLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEIGKDIPDPHAIEH 345
               Eaton,
                                       Botstein, David
                                                  Ashkenazi,
                          Desnoyers,
                                                                                       Application US/09902853
. US20020192659A1
                                                                                                                                                                                         714
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sapien
               Dan
                           Luc
                                                  Avi
                                                                                                                                                                                                                  -QMKKLQQLHLNTSS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   score 195; DB 9; Length 11
Pred. No. 0.00036;
90; Mismatches 149; Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                            -MPQLEGIDISQNNLKDISFLS----KYKNLTLVAAA 494
                                                                                                                                                                                                                                                                   ---RLILQGNRIRSITKKAFTGLDALEHLDLSD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ---PVSAN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -HNRLSFIKASSMS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Length 1119;
                                                                                                                                                                                                                    LLCDCQL - - KWLP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        --ITLLSL-AG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        142;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --HLQS 99
                                                                                                                                                                                                                                                                                                                                            -LDF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        130
                                                                                                                                                                                                                                                                    419
                                                                                                                                                                                                                                                                                                                      365
                                                                                                                                                                                                                    456
                                                                                                                                                                                                                                                                                             648
```

23;

APPLICANT: APPLICANT

Fong, Sherman Gao, Wei-Qiang

Gerber,

Hanspeter

Ferrara, Napoleon Filvaroff, Ellen

Napoleone

```
δÃ
       9
                                                                                                            Ъ
                                                                                                                                                            80
                                                                                                                                                                                                                                                                                                                        ; ORGANISM: Homo US-09-902-853-294
                                                                                                                                                                                                        Query Match 4.8%;
Best Local Similarity 21.6%;
Matches 105; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILE REFERENCE: 10466-14
CURRENT APPLICATION NUMBER: US/09/902,853
CURRENT FILING DATE: 2001-07-10
PRIOR APPLICATION NUMBER: US/09/665,350
PRIOR FILING DATE: 2000-09-18
PRIOR APPLICATION APPLICATION NUMBER: US/09/665,350
                                                                                                                                                                                                                                                                                                                                                                                                                                                            NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       PRIOR PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR
                                                                                                                                                                                                                                                                                                                                                                                  TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                     Q ID NO 294
LENGTH: 1119
       100
                                                        346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  R APPLICATION NUMBER: PCT/US99/28564
R FILING DATE: 1999-12-02
R FILING DATE: 1999-12-02
DR APPLICATION NUMBER: PCT/US99/28565
DR APPLICATION NUMBER: PCT/US99/30095
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              R AFFILING DATE: 1999-09-15
R APPLICATION NUMBER: PCT/US99/23089
R FILING DATE: 1999-10-05
R APPLICATION NUMBER: PCT/US99/28214
DR FILING DATE: 1999-11-29
DR APPLICATION NUMBER: PCT/US99/28313
PR APPLICATION NUMBER: PCT/US99/28313
PR FILING DATE: 1999-11-30
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RENT FILING DATE: 2001-07-10

RAPPLICATION NUMBER: US/09/665,350

RFILING DATE: 2000-09-18

RAPPLICATION NUMBER: US 60/143,048

RFILING DATE: 1999-07-07

RAPPLICATION NUMBER: US 60/145,698

RFILING DATE: 1999-07-26

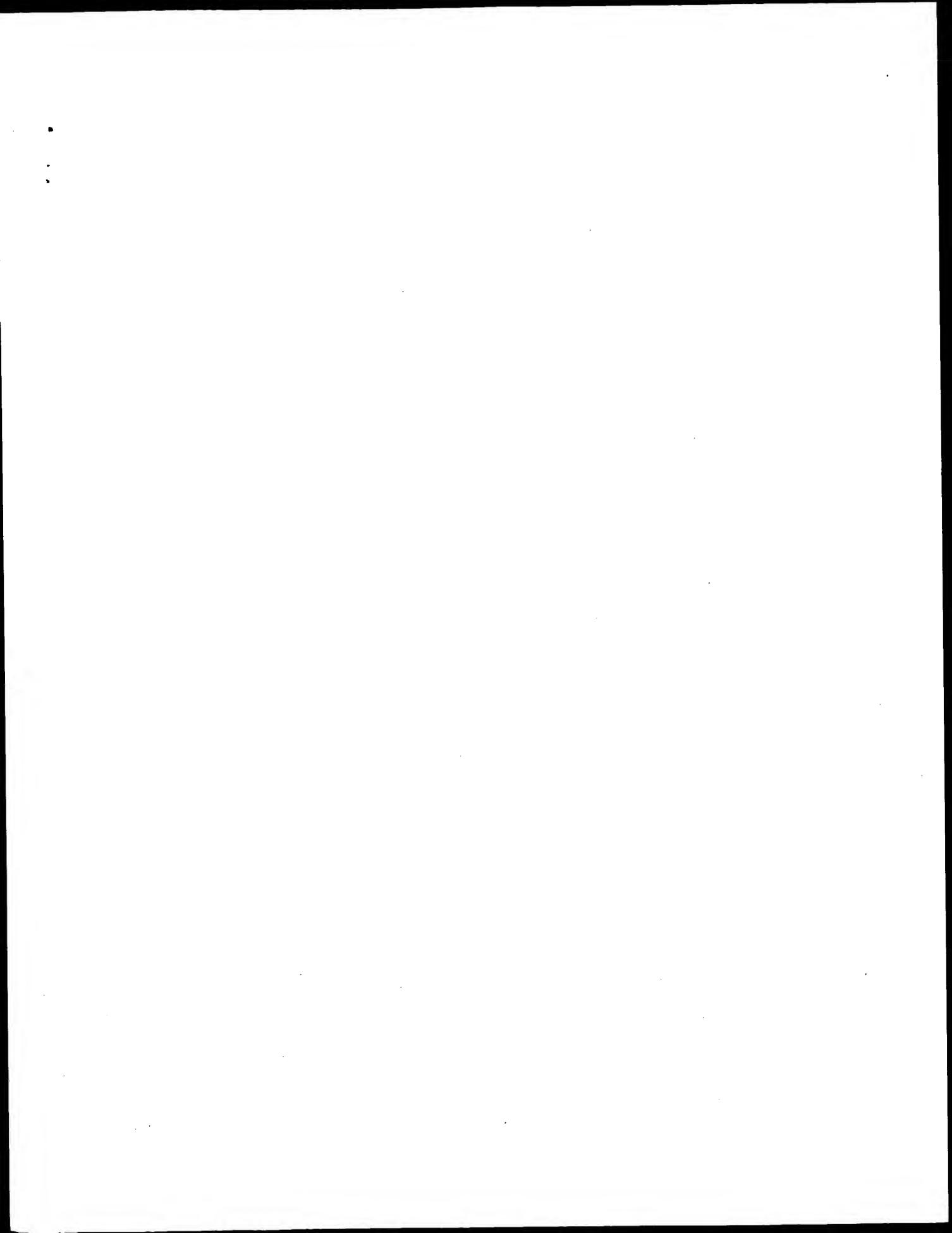
RAPPLICATION NUMBER: US 60/146,222

RAPPLICATION NUMBER: US 60/146,222

RAPPLICATION NUMBER: PCT/US99/20594
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                R APPLICATE: 1999-12-20
R APPLICATION NUMBER: PCT/UR
R APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FILING DATE: 1999-12-02
APPLICATION NUMBER: PCT/US99/30095
FILING DATE: 1999-12-16
APPLICATION NUMBER: PCT/US99/30911
FILING DATE: 1999-12-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILING DATE: 1999-12-20 APPLICATION NUMBER: PCT FILING DATE: 2000-01-05
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FILING DATE: 1999-09-08
APPLICATION NUMBER: PCT/US99/20944
FILING DATE: 1999-09-13
APPLICATION NUMBER: PCT/US99/21090
FILING DATE: 1999-09-15
APPLICATION NUMBER: PCT/US99/21547
                                                                                                                                                                                                                                                                                                                                                                                  PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                OF.
                                       ARELEKHKVGMDTLRALGFDEEVILDIVRTHDAPTPFPSNEKDPNMMKEWLATVIKLDLG 405
LREVKLNNNELETIPNLG-
                                                                                                     RKRLARLPEPL - - - PSWVARLDLS -
                                                                                                                                              QEKLAYLAEKLGIDPSTIKRVETQDGKLGLEYPHHDHAHVLMLSDIEIGKDIPDPHAIEH 345
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Williams, P. Mickey:
Wood, William, I.
INVENTION: Secreted and Transmembrane Polypeptides and Nucleic
                                                                                                                                                                                                                                                                                                                                                                                                                                                             SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Kljavin, Iva.
Kljavin, Iva.
Wather, Jennie P.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Roy, Mar
Stewart,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gerritsen,
Goddard, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Mather,
Pan, Ja
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Gurney, Austin L.
Hillan, Kenneth, J
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Godowski, Paul J.
Grimaldi, Christopher
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Paoni,
                                                                                                                                                                                                                                                                                                                                                                                                                                                               IJ
                                                                                                                                                                                                                                                                                                                                                    Sapien
                                                                                                                                                                                                                                                                                                                                                                                                                                                               NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Margaret
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     James
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Nicholas F.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Timothy A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Mary
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PCT/US00/00219
                                                                                                                                                                                                           90;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Ħ
                                                                                                                                                                                                        Score 195; DB 9;
Pred. No. 0.00036;
0; Mismatches 149
                                                                                                  HNRLSFIKASSMS
                                                                                                                                                                                                           149;
                                                                                                                                                                                                                                                            Length 1119;
                                                                                                                                                                                                        Indels
                                                                                                                                                                                                     142;
                                                                                             -HLQS
                                                                                                                                                                                                    Gaps
                                                                                                  99
                                                                                                                                                                                                       23;
```

```
Дb
                                     Вb
                                                     QΥ
                                                                        Db
                                                                                         QУ
                                                                                                                             Qy
                                                                                                            В
                                                                                                                                                DЬ
                                                                                                                                                                 QY
                                                                                                                                                                                    Db
                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                       DЬ
                                                                                                                                                                                                                                        Qy
 457
                                    420
                  709
                                                      649
                                                                        366
                                                                                          591
                                                                                                            308
                                                                                                                             551
                                                                                                                                               248
                                                                                                                                                                 495
                                                                                                                                                                                    191
                                                                                                                                                                                                     463
                                                                                                                                                                                                                      131
                                                                                                                                                                                                                                        406
 QWVAEN
                                 NAIMSLQG-NAFS-
                                                NQLTSLEGVNNFTALDILSVSKNQLTNVNLSKPNKTVTNIDISHNNISLADLKLNEQHIP 708
                                                                  LKNNPNLSSLSINRAQLQSLEGIEASSVIVRVEAEGNQIKSLVLKDKQG--SLTFLDVTG 648
                                                                                                                            K--ESI
                                                                                                                                         EAIAKN
                                                                                                           EFCQKI
                                                                                                                                                                                  ANTLL
                                                                                                                                                                                                                      NRIVE
                                                                                                                                                                                                                                        SRKDP
                                                                                                     LTVVDLSRN----ADVDLATLQAPKLETLMVNDTKVSH----
                                                                                                                                                                              ILPEHLKEFQSLETLDLSSNNISELQTAFPALQLKYLYLNSNRVTSMEPGYFDNL 190
                                                                                                                                                                                                                             LQRKGLSLLPNLETLGIGFTPIKDISPVLQFKKLKQLLMTKTGVTDYR--FLDN- 462
462
                                 -- QMKKLQQLHLNTSS-
                                                                                                                                                                                                -----MPQLEGIDISQNNLKDISFLS----KYKNLTLVAAA 494
                                -LLCDCQL--KWLP 456
                                                                                                                         -----LDF 590
                                                                                                       365
                                                                                                                                                                               247
```

Search completed: May 19, 2003, 08:24:04 Job time : 239.541 secs



Run

3

```
Result
No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Minimum
Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Title:
Perfect so
Sequence:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Database
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Searched:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Scoring
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      protein
            225544
2554
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
27654
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            on:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Pred. Name of Score cand is
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  number
          4163
2661.5
1186.5
160
160
145.5
145.5
145.5
147
140
140
135.5
135.5
135.5
135.5
133.5
133.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        table:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  score:
                                                                                                                                                                                                                                                                                                                                                                                                                      Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   seq
seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                No. is the number of greater than or equal derived by analysis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   length:
length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 US-09-645-
4265
1 MKINKKYI
                                                                                                                                                                                                                                                                                                                                                                                                                      Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Issued_Patents_AA:*
1: /cgn2_6/ptodata/1/iaa/5A_COMB.pep:*
2: /cgn2_6/ptodata/1/iaa/5B_COMB.pep:*
3: /cgn2_6/ptodata/1/iaa/6A_COMB.pep:*
4: /cgn2_6/ptodata/1/iaa/6B_COMB.pep:*
5: /cgn2_6/ptodata/1/iaa/PCTUS_COMB.pep:*
6: /cgn2_6/ptodata/1/iaa/backfiles1.pep:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      BLOSUM62
Gapop 10.0 ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Minimum
Maximum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          262574 seqs,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        мау
         æ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MKINKKYLVGSAAALILSVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Copyright
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        19,
                                                                                                                                                                                                                                                                                                                                                                                                                       Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   0
20000000000
        796
763
447
3696
10182
783
812
1073
1073
1073
1073
1040
2314
1503
2431
1610
812
1056
740
1183
2308
2308
1507
11664
1664
1664
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               n or equal
analysis o
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       2003,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Match 0%
Match 100%
first 45 su
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -835A-7
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              GenCore
(c) 1993
                                                                                                                                                                                                                                                                                                                                                                                                                         DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Gapext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          29422922 residues
          UPOLO4010144444440440444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        07:51:03
    US-08-961-083-56
US-08-961-083-66
US-08-961-083-66
US-09-134-001C-5080
US-09-134-001C-3159
5231168-2
US-09-513-783A-6
US-09-723-820-6
US-09-816-703A-2
US-08-961-083-118
US-08-976-255-14
US-09-513-783A-2
US-09-513-783A-2
US-09-513-783A-32
US-08-447-031A-2
US-08-447-031A-2
US-08-448-164-1
US-08-448-164-1
US-08-652-2
US-09-599-652-2
US-09-264-604-2
PCT-US93-03077-1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            results l to the of the t
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    WS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              version - 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ٠.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            s predicted by se score of the total score di
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Search time
(without a
1883.841 M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           5.1.4_p5_Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KLLALLKGSNPSSVSKEKIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          by chance to hothe result being distribution.
                                                                                                                                                                                                                                                                                                                                 90
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         e 12.7448 Seconds alignments)
Million cell upd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              457:
Ltd
Sequence 56, Appl sequence 182, Appl sequence 182, App sequence 5080, App sequence 3159, Ap sequence 3159, Ap sequence 6, Appli sequence 6, Appli sequence 6, Appli sequence 118, App sequence 114, Appli sequence 2, Appli sequence 2, Appli sequence 2, Appli sequence 32, Appli sequence 32, Appli sequence 5, Appli sequence 1, Appli sequence 1, Appli sequence 1, Appli sequence 2, Appli
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       œ
                                                                                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     to have being p
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    cell updates/sec
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         printed,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 \infty
```

Qу ДЬ	2 H O	φ						£ Sī		
21 1	Query M Best Lo Matches	96-80 MOI WOI S	TELECO TELECO TELE TELE TELE	CL PRIO AP FI ATTO NA	OP SO CURR AP FI	COMP COME ST	HHHH	SULT 1 -08-961- Sequence Patent N GENERAL APPLI TITLE NUMBE		28 32 33 33 33 34 44 45 43 36
SYELGLY 	atch cal Sim 795;	NCE C	ERENCE DMMUNI EPHONE EFAX: CION F			ATE: Ma UNTRY: P: 2085 UTER REA UDIUM TYP		-083-5 56, WO. 61 INFO ICANT:		132 132 132 132 132 133 131.5 131.5 130.5 130.5 130.5 130.5
(QARTVKE QARTVKE	ilarity Conserv	RACTER 96 ami no aci SS: s linea E: pr	DOCKET ATION (301) (301) R SEQ	ATIO	SYSTEM ASCII LICATIO ON NUMB	aryland USA 50 ADABLE	CE ADD Huma 410 Ke kville	plicat 469 ATION: Choi e ENTION		
ENNRVSY I ENNRVSY I	97.6% 99.9% 7ative	STICS: o acid ngle tein	NUMBER NFORMA 309-8 09-851 D NO:	435 ATA: R: RMATIO	: MSDO Text N DATA: ER: US	FORM:	RESS: n Geno y West	ion US t. al. : Str		1164 1338 1338 1338 1338 1338 1338 1338 2032 2032 2032 2032 1435 1435 2115 2860
DGK	,, <u>,,</u>	ν	56:		S ve /08/	ω .	v o	/089i		41222224442244821
QAT QAT	Sco Pre ;		3 B34 :		rsi 961	O P.	cien	6108	⊅	0 - SD 0
X — X — X — X	re 41 d. No Misma		0P2		on 6	nch,	ces,	us 3	ALIGNMENT	Q B B B B B B C C C C C B B C C C C C C
NLTP NLTP	63 tc				. 2	<u> </u>	In	pneumon	NMEN	57-7 71-0 71-0 71-0 63-4 71-0 71-0 71-0 71-0 71-0 71-0 71-0 71-0
DEV 	; D 2.2e hes					4 Mb	c.	mon i	TS	00000000000000000000000000000000000000
SKRE SKRE	В 4; -305 1					stora		α Φ		⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨⟨
ର — ର	** **					rage		Anti		
AEQI AEQI	Length Indel							igens		
VIK	h 7							s and		\$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$ \$
ITDC	96;									sequence seq sequence sequence sequence sequence sequence sequence sequence sequence
INAEQIVIKITDQGYVT INAEQIVIKITDQGYVT	**							Vaccines		
r 60	Gaps							nes		2 D D D D D D D D D D D D D D D D D D D
										Appli Appli Appl Appl Appl Appli Appli Appli Appli Appli Appli Appli Appli
	0;				•					֧֧֧֧֧֧֧֧֧֧֧֧֟֟֟֟֟֟֟֟֟֓֓֓֟֟֓֓֓֓֓֟֓֓֓֓֟֟֓֓֟֟ ֖֖֓֞֞֞֓֓֞֞֓֓֞֞֞֓֓

γ

dd

QΥ

Дb

Ş

S S

밁

δõ

```
γQ
                                                                                                                                                                                                                                                                                                                                                          Вb
                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                      밁
                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                              dd
                                                                                                                         RESULT
US-08-9
                                                                                                                                                                                                                                                                                    δÃ
                                                                                                                                                                                                                                                                                                   B
                                                                                                                                                                                                                            δõ
                                                                                                                                                                                                                                          Db
                                                                                                                                                     В
                                                                                                                                                                    Š
                                                                                                                                                                                  DЬ
                                                                                                                                                                                                20
                                                                                                                                                                                                               Dp
                                                                                                                                                                                                                                                        Š
                                                                                                                                                                                                                                                                       9
                                                                                                    Sequence 66,
Patent No. 61
GENERAL INFO
                                                                                                                          -08-961-083-66
                                                                              TITLE OF INVENTION:
                                                                       NUMBER OF SEQUENCES: 4
CORRESPONDENCE ADDRESS:
               COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                              181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         141
                                                                                                                                                                                                                                                                                                                                             441
                                                                                                                                                                                                                                                                                                                                                           361
                                                                                                                                                                                                                                                                                                                                                                        381
                                                                                                                                                                                                                                                                                                                                                                                                                  241
                                                                                                                                                                                                                                                                                                                                                                                                                                261
                                                                                                                                                                                                                             681
                                                                                                                                                                                                                                                                       541
                                                                                                                                                                                                                                                                                     561
                                                                                                                                                                     801
                                          ADDRESSEE:
STREET: 94
CITY: Rock
STATE: Mai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     81
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       61
COMPUTER: HP Vec
OPERATING SYSTEM:
                              ZIP:
                                     COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     VSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPLSQRHVESDGLVFDPAQITSRT
                                                                                                                                                                                                                                                                                                                                                          LLKGSNPSSVSKEKIN 816
                                                                                                                                                                                  NRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDHTYKAPNGYTLED
                                                                                                                                                                                                                                                                                                                               VSHTLTAKKENVAPRDQEFYDKAYNLLTEAHKALFXNKGRNSDFQALDKLLERLNDESTN
                                                                                                                                                                                                                                                                                                                                     VSHTLTAKKENVAPRDQEFYDKAYNLLTEAHKALFENKGRNSDFQALDKLLERLNDESTN
                                                                                                                                                                                                                                                                                                                                                                                      ARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPSPG
                                                                                                    INFORMATION:
                                                                                                             6159469
                                                  SEE: Human Genor
: 9410 Key West
Rockville
                               20850
                                           Maryland
                                                                                                                   Application US/0896108
                                     USA
       HP Vectra 486/
                                                                  Genome Sciences,
                                                                               al.
Streptococcus pneumoniae
452
  MSDOS
                                                           Avenue
                3.50 inch,
         33
  version
  σ
                1.4Mb
                storage
                                                                                        Antigens
                                                                                        and
                                                                                                                                                                                                                                                                                                                                                                                                                                                              260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       140
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           200
                                                                                                                                                                                    780
                                                                                                                                                                                                                                                                                       620
                                                                                                                                                                                                                                                                                                                                              500
                                                                                                                                                                                                                                                                                                                                                            420
                                                                                                                                                                                                                                                                                                                                                                          440
                                                                                                                                                                                                                                                                                                                                                                                                      380
                                                                                                                                                                                                                                                                                                                                                                                                                     300
                                                                                                                                                                                                                                                           680
                                                                                                                                                                                                                                                                                                     540
                                                                                                                                                                                                                                                                                                                  560
                                                                                                                                                                                                                                                                                                                                 480
                                                                                                                                                                                                                                                                                                                                                                                        360
                                                                                                                                                                                                  800
                                                                                                                                                                                                                              740
                                                                                                                                                                                                                                             660
                                                                                                                                                                                                                                                                         600
```

```
Qy
                                                                                                                                                                                                                                                                                                                          Дb
                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                      Qy
                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                         Dр
                                                                                                                                                                     QУ
                                                                                                                                                                                      Dþ
                                                                                                                                                                                                      У
                                                                                                                                                                                                                       Db
                                                                                                                                                      Db
                 Db
                                                                  Ωy
                                                                                    Вb
                                                                                                   δÃ
                                                                                                                     Дb
                                                                                                                                     Qy
                                QY
                                                   д
                                                                                                                                                                                                                                                                                                                                                                                                                          MOLECULE TYPE:
                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                   Best
                                                                                                                                                                                                                                                                                                                                                                                                          Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEPHONE: (301) 309-8512
TELEFAX: (301) 309-8512
IFORMATION FOR SEQ ID NO: (SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TELECOMMUN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PRIOR APPLICATION DATE APPLICATION NUMBER: FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/(
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      CURRENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                        199
                                                                                                                                                                                                                                                                                                          139
                                                                                                                                                                                                                       227
                                                                                                                                                                                                                                                                                         121
                                                                                                    495
                                                                                                                     406
                                                                                                                                     435
                                                                                                                                                      346
                                                                                                                                                                      379
                                                                                                                                                                                       286
                                                                                                                                                                                                       319
                                                                                                                                                                                                                                        259
                                                                                    466
675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Brookes, A. A REGISTRATION NUMBER: REFERENCE/DOCKET NUM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                          Local Similarity
les 520; Conser
                                                                                                                                                                                                                                                                                                                                                                                                                                           STRANDEDNESS: TOPOLOGY: 11
                                                                                                                                                                                                                                                                                                                                                                                                                                                            TYPE:
                                                                                                                                                                                                                                                                                                                          61
                                                                                                                                                                                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                          79
                                                                                                                                                                                                                                                                                       VISHG
                                                                                                                                                                                                                                                                                                                                                         DTGDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRTYRRQNSDNTSRTNWV
                                                                                                                                                                                                                                                                                                                          VTSHG
                                                 HDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGD
                                                                                                                    PSVSN
                                                                                                                                                                                                                                                        DTGDAYIVPHGDHYHYIPKNELSASELAAAEAYWNG-
GYTLEDLFATIKYYVEHPDERPHSNDGWGNASEHVLGKKDHSEDPNKNFKADEE:
               PSPQPAPNPQPAPSNPIDEKLVKEAVRKVGDGYVFEENGVSRYIPAKDLSAETAAGIDSK
                                                                                                                                                                                                                       ANPAQ
                                                                                                                                                                      PGPQP
                                                                                                                                                                                                                                                                                                                                                                                                                                                           amino acid
                                                                                                                                                                                                                                                                                                                        ICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ICATION INFORMATION:
                                                                                                                                                                     APNLK-IDSN----SSLVSQLVRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESK 434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   763 amino acids
                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                            linear
                                                                                                                                                                                                                                                                                                                                                                                                                                   protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                   single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                        62.4%; 5c. 66.8%; Pr. 78;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Anders
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US/08/961,083
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           36,373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      PB340P2
                                                                                                                                                                                                                                                                                                                                                                                          Score 2661.5;
Pred. No. 3.1e-
3; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                          DB 4;
-192;
131;
                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                                                                                                                                                                                                                                                                           Length 763;
                                                                                                                                                                                                                                                         -KQGSRPSSSSYN
                                                                                                                                                                                                                                                                                                                                                                                            49;
                                                                                                                                                                                                                                                                                                                                                                                            Gaps
                                                                                                                                                                                                                                                          226
                                                                                                                                                                                                                                                                                                            198
                                                                                                                                       494
                                                                                                                                                                                                                                                                           258
                                                                                                                                                                                                                                                                                           177
                                                                                                                       465
                                                                                                                                                       405
                                                                                                                                                                                                                          285
                                                                                                                                                                                                                                          318
                                                     585
                                                                     614
                                                                                      525
                                                                                                      554
                                                                                                                                                                                         345
```

.8

```
Ş
                                                                                                                                                                                    DЬ
                                                                                                                                                                                                           20
                                                                                                                                                                                                                                                                                   ; TOPOLOGY: 1; MOLECULE TYPE: US-08-961-083-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RESULT 3
US-08-961-083-182
; Sequence 182, A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   9
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
              20
                                       В
                                                             Ş
                                                                                     밁
                                                                                                             20
                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                               TELEFAX: (301) 309-8504
TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 18
SEQUENCE CHARACTERISTICS:
LENGTH: 447 amino acida
TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Patent No. bij...
Patent No. bij...
Patent No. bij...
Phoi e
                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                      NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER:
FILING DATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NUMBER OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         CORRESPONDENCE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TITLE OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             706
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     729
                                                              204
                                                                                      121
                                                                                                              144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STREET:
CITY: I
STATE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     FILING DATE: CLASSIFICATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING SYSTEM: MS SOFTWARE: ASCII Text
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZIP:
                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                    TYPE: amino STRANDEDNESS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               COMPUTER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ADDRESSEE:
                                                                                                                                      61
                                                                                                                                                             84
                                                                                                                                                                                 GYTLEDLLATVKYYVEHPNERPHSDNGFGNASDHVQRNKNGQADTNQTEKPSEEKPQTEK
                                   DNVRTKDEINRQKQEHVKDNE
                                                                                                         DNVRTKEEINROKQEHSOHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIEDTGDA
                                                                                                                                   DHYHYYNGKVPYDALFSEELLMKDPNYQLKDADIVNEVKGGYIIKVDGKYYVYLKDAAHA
                                                                                                                                               DHYHYYNGKVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVDGKYYVYLKDAAHA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PEEETPREEKPQSEKPESPKPTEEPEESPEESEEPQVETEKVEEKLREAEDLLGKIQD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PVEET-
PGTTNTSNNSNTNSQASQSNDIDSLLKQLYKLPLSQRHVESDGLVFDPAQITSRTARG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                182,
                                                                                                                                                                                                                                    263;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20850
                                                                                                                                                                                                                                                Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Rockville
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Maryland
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                9410 Key West Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Application US/08961083
                                                                                                                                                                                                                                  27.8%; ilarity 41.0%; Conservative 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Choi et.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HP Vectra 486/33
                                                                                                                                                                                                                                                                                                          linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Human
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ADDRESS
                                                                                                                                                                                                                                                                                              protein
                                                                                                                                                                                                                                                                                                                     single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        435
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   streptococcus

452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Genome Sciences,
                                                                                                                                                                                                                                                                                                                                                                                               309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MSDOS version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             US/08/961,083
                                                                                                                                                                                                                                    62;
                                                                                                                                                                                                                                             Score 118
Pred. No.
                                                                                                                                                                                                                                                                                                                                                                                                                       PB340P2
                                                                                     -KVNSNVAVARSQGRYTTNDGYVFNPADIIEDTGNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        inch,
                                                                                                                                                                                                                                   Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  PAEPEVPQVETEKVEAQLKEAEVLLAKVTD
                                                                                                                                                                                                                                 1186.5; DB 4;
No. 2.1e-81;
smatches 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1.4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Antigens
                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                         Length 447;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 and
                                                                                                                                                                                                                                  207;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   763
                                                                                                                                                                                                                                Gaps
                                                             263
                                                                                     176
                                                                                                                                                            143
                                                                                                                                                                                    60
                                                                                                                                                                                                           83
                                                                                                              203
                                      224
                                                                                                                                                                                                                                   11;
```

```
QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QУ
                              QУ
                                                               рЬ
                                                                                          QУ
                                                                                                                            Дb
                                                                                                                                                       Qy
                                                                                                                                                                                        Db
                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          RESULT 4
US-09-134-001C-5080
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
  dd
                                                                                                                                                                                                                                                                                                                                                                             ; ORGANISM: Staphylococcus
US-09-134-001C-5080
                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ ID NO 5080
LENGTH: 3696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Patent
                                                                                                                                                                                                                                                                                                                                              Query Match
                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT: Lynn Doucette-Stamm et al APPLICANT: Lynn Doucette-Stamm et al TITLE OF INVENTION: NUCLEIC ACID AND AMINO ACID SEQUENCES RELATING TO STAPHYLOCOCC TITLE OF INVENTION: EPIDERMIDIS FOR DIAGNOSTICS AND THERAPEUTICS FILE REFERENCE: GTC-007

CURRENT APPLICATION NUMBER: US/09/134,001C

CURRENT FILING DATE: 1998-08-13

PRIOR APPLICATION NUMBER: US 60/064,964

PRIOR APPLICATION NUMBER: US 60/064,964

PRIOR APPLICATION NUMBER: US 60/055,779

PRIOR APPLICATION NUMBER: US 60/055,779

PRIOR FILING DATE: 1997-08-14

NUMBER OF SEQ ID NOS: 5674
                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT
  1484
                                                                                                                            1409
                                                                                                                                                                                        1354
                                                                                                                                                                                                                                                      1299
                                                               1469
                                                                                            178
                                                                                                                                                          131
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      564
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          225
                                238
                                                                                                                                                                                                                                                                                  35
                                                                                                                                                                                                                                                                                                                                Local
                                                                                                                                                                                                                    88.YYNGKVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVD------
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VAIPHGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VAVPHG
                                                                                                                                                                                        EANRKIE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GFDANRIIAE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TLTAKK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APNLKIDSNSSLVSQLVRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSH
                                                                                                                          NKANEQINHIQNTPDATNEEKQEAINRVSAELARVQAQINAEHTTQGVKTIKDDAITSLS
                                                                                                                                                                                                                                                     NNQIDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LVDDLLAFLAPITHPERLGKPNSQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGD
  IEQKAT
                                LSNSRT
                                                                                           RSQGRYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGN
                                                                                                                                                                                                                                                                                 NNRVSYI - - DGKQATQKTENLTPDEVSKREGINAEQIVIKITD -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         AAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYH 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        AYIVRH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               5080, Application US/09134001C
5. 6380370
                                                                                                                                                                                                                                                                                                               3.8%; Score 162; Similarity 18.5%; Pred. No. 183; Conservative 141; Mismatc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LTTSK
                                                                                                                                                        --GKYYVYLKDAAHADNVRTKEEINR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NT
QQTQFINNNDNATDEEKEVANNLVIATKQKSLDNINSLSSNNDVENAKVAGINE
                   IVSDGRQSINA---ITPDTSIKRNAKN--DIDIKAADKKIKIQRINDATDEEIQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ENVAPRDQEFYDKAYNLLTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SGTGSTVSTNAK - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GDHFHYI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QSVAKGSTSKPANKSENLQSLLKELYDSPSAQRYSESDGLVFDPAKIISRTPNG
                                                                                                                                                                                      -EAKIEAKDNIQRNSTRDQVNEAKTNGINKIENITPATTVKSEARQAVQ
                                                               INAQVVEKE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    - PKSNQIGQPTLPNNSLATPSPSLPI - - NPGTSHEKHEEDGY
                                                                                                                                                                                                                                                                                                                                                                                           epidermidis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -LSSA-
                                                                                                                                                                                                                                                                                                             Score 162; DB 4;
Pred. No. 0.0098;
L; Mismatches 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DESGFVMSHGDHNH
                                                                                                                                                      -QKQEHSQHREGG--TPRNDGAVALA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---PNEVVSSLGSLSSNPSS---
                                                                                                                                                                                                                                                                                                                348;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -SDGYIFNPKDIVEETAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            442
                                                                                                                                                                                                                                                                                                                                             Length 3696;
                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                  -- QGYVTSHGDHYH 87
                                                                                                                                                                                                                                                                                                                316;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -TGDSA
                                                               SARNA
                                                                                                                                                                                                                                                   1353
                                                                                                                            1468
                                                                                                                                                                                        1408
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              443
                              286
                                                                                                                                                        177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 503
                                                                                             237
                                                                                                                                                                                                                       130
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             309
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           383
                                                                                                                                                                                                                                                                                                                  42;
```

Query Match 3.8%; Score 160; DB 4; Length 10182; Best Local Similarity 18.8%; Pred. No. 0.068;	PPLICANT: Lynn ITLE OF INVENTI ITLE OF INVENTI ILE REFERENCE: URRENT APPLICAT URRENT FILING DAT RIOR APPLICATIO RIOR APPLICATIO RIOR FILING DAT RIOR FILING DAT UMBER OF SEQ ID Q ID NO 3159 LENGTH: 10182 TYPE: PRT ORGANISM: Staph 9-134-001C-3159	y 788 b 2151 b 2151 s-09-134- Sequence Patent N GENERAL	Db 1971 ATNRVNAGLAQAIQNINNAHSTQEVNESKTNSIATIKSVQPNVIKKPTAINSLTQEANNQ 2030 Qy 707 EHVLGKKDHSEDPNKNFKADEEPVEETPAEPEVPQVETEKVEAQ 750 : :: :: :: :: :: :: :: :: Db 2031 KTLIGNDGNATDDEKEAAKQLVTQKLNEQIQKIHESTQDNQVDNVKAQAITAIKLINANA 2090 Qy 751 LKEAEVLLAKVTDSSLKANATETLAGLRNNLTLQIMD 787 :: :: :: :: :: :: :: :: ::	556 DIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDS	Qy 433 SKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLL 467 : : :	Qy 287 IDSLLKQLYKLPLSQRHVESDGLVFDPA-QITSRTARGVAVPHGDHYHFIPYSQMSELEE 345 ::
RESULT 6 5231168-2	Qy 659	Db 5949 TLDTAMLGLRKSIKDKNDTKNSSKYINEDHDQQQAYDNAVNNAQQVIDETQATLS 6003 Qy 573 SHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKR 628	Qy 449 KENVAPRDQEFYDKAYNLLTEAHKALFENKGRNSDFQALDKLLER 493 : :	5704 NLRDGIQNKEDIKRSSAYINADPTKVTAYDQALQNAENIINATP 353 LRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFEEK 5748NVELNKATIEQALSRVQQAQQ-DLD 413 GISRYVFAKDLPSETVKNLESNVELNKATIEQALSRVQQAQQ-DLD 1: : : : : : : : :	Db 5534 GINKLTALNDÄQRQKAIENVQÄQQTIPAVNÖQLTLDREINTAMQALRDKVÖQQNNVHQ 5591 Qy 180 QGRYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGN 237	Matches 189; Conservative 126; Mismatches 368; Indels 320; Gaps 4 Qy 33 KENNRVSYIDGKQATQKTENLTPDEVSKREGINAEQIVIKITDQGYVTSH 82 ::

```
Sn
                                                                                                                                                                              50
                                                                                                                                                                                                           В
                                                                                                                                                                                                                                      δÃ
                                                                                                                                                                                                                                                                   В
                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                               Ş
                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                               멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                       RESULT
                                                                                                                                                                                                                                                                                                                                                                                                               QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Patent No. 5231168

APPLICANT: DZIEGIEL, MORTEN; BORRE, MARTIN; JEPSEN, SOI
VUUST, JENS; RIENECK, KLAUS; WIND, ANNETTE; JAKOBSEN, PALLE
TITLE OF INVENTION: MALARIA ANTIGEN
NUMBER OF SEQUENCES: 19
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    231168-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                SEQ.
                                               Sequence 6, Application Patent No. 6416959 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Best
                                                                                         -09-513-783A-6
     APPLICANT:
APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Query
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               IJ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NUMBER OF SEQUENCES: 19
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/
FILING DATE: 18-SEP-1989
                                                                                                                                                                                                                                      718
                                                                                                                                                                                                                                                                                               675
                                                                                                                                                                                                                                                                                                                                                                                    421
                                                                                                                                                   615
                                                                                                                                                                                                           564
                                                                                                                                                                                                                                                                                                                            464
                                                                                                                                                                                                                                                                   504
                                                                                                                                                                                                                                                                                                                                                                                                                                               365
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           498
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       305
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       190
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                132
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            311
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     256
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            198
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        78
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Z
0
::
                                                                                                                                                  TUNNENIE
                                                                                                                                                                           LRNNLTLQIMDNNSIMAEAEKLLALLKGSNPSSVSKEKI
                                                                                                                                                                                                                                                                                           GYTLEDLFATIKYYVEHPDE-RPHSNDGWGNAS---EHVLGKKDHSE-
                                                                                                                                                                                                        LPEDKNEKVQHEIVE---VEEILPEDKNEKVQHEIVEVEEILPEIVE-
                                                                                                                                                                                                                                -DPNKNFKADEEPVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAG
                                                                                                                                                                                                                                                              EILPEDKNEKVQHEIVEVEEILPEDKNEKGQHEIVEVEEILPEEDKNEKGQHEIVEVEEI
                                                                                                                                                                                                                                                                                                                            VEETLPEDKNEK-
                                                                                                                                                                                                                                                                                                                                                  AAAIYNRVKGEKRIPLVRLPYMVEH-TVEVKNGNLIIPHKDHYHNIKFAWFDDHTYKAPN
                                                                                                                                                                                                                                                                                                                                                                                    EIVEVE---EILPE--
                                                                                                                                                                                                                                                                                                                                                                                                           DIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDS
                                                                                                                                                                                                                                                                                                                                                                                                                                          NEFQEINEDDKSAHIQHEIVEVEEILPEDDKNEKVEHEIVEVEEILPEDKNEKG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     STNKEKLVDDLLAFLA-PITHPERLGKPNSQIEYTEDE-VRIAQLADKYTTSDGYIFDEH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VAPRDQEFYDKAYNLLTEAHKA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        PNFVDSQPNPQEPVEPSFVKIEKVPSEENKHASVDPEVKEKENVSEVVEEKQNSQESVEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SEKSTSE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PLRYRSNHWVPDSRPEQPSPQPTPEPS---PGPQPAPNL----KIDSNSSLVSQLVRKVG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EGDFEEPNHEEFEPDQNDSELSENELVESEKSVSEP-AEHVEIVSEKSVSEPAEHV-EIV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPLSQRHVES - - DGLV - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IPVNEDEFEDVHTEQLDLDHKTVDPEIVEVEEIPSELHENEVAHPEIVEIEEVFPEPNQN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EGYVF - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       EDTGDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRTYRRQ--NSDNTSRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               EESGESKLV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        142;
    ': Kapur, INVENTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SVTEPAEHEEVVSEESNPEPAENEESSIEEAHQE--EIVPEQNDEESGESGLVDNE
                                 Giuliano, Kenneth A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -PAEHVESVSEQSNNEPSEKKDGPVPSKPFEEIEKVDVQPKIVD--LQIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EEKGISRYVFAKDLPSETVK--NLESKLSKQESVSHTLTAKK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              18-SEP-1989
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -FDPAQITS-
                   Ravi
                                                                                                                                                -TIKPEEKK
    \triangleright
                                                                           US/09513783A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.6%;
 System
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --DNDEGGFEEAHHENFSS---EVSNSELNENEFVESDK--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         /07/409,658
                                                                                                                                                                                                                                                                                                                         VEHEIVEVEE---ILPEDKNEKG-
 for
                                                                                                                                                                                                                                                                                                                                                                               ---DDKNEKVEHEIVEVEEILP--EDKNEKGQHEIVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Score 152; DB 6;
Pred. No. 0.0048;
5; Mismatches 277;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -RTARGVAVPHGDHYHFIPYSQMSELEERIARII
   Cell
                                                                                                                                                 NEFSVEEKAI
   Based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LFENKGRNSDFQALDKLLERLNDE
Screening
                                                                                                                                                                            815
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length 783;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOREN;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Η.
                                                                                                                                                                                                                                                                                                                        -QHEIVEVE
                                                                                                                                                                                                       -IEEVPSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    174;
                                                                                                                                                                                                                                                                                                                                                                                                                                          HQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                                                                                                                                                                                                     674
                                                                                                                                                                                                                                                               563
                                                                                                                                                                                                                                                                                                                                                                                                             615
                                                                                                                                                                                                                                                                                                                                                                                                                                          420
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       555
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 364
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      451
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              404
                                                                                                                                                                                                                                                                                                                        503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               497
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           304
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   244
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           189
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        351
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    35;
```

```
Db
                                 Qy
                                                                 В
                                                                                           Qy
                                                                                                                                                       QΥ
                                                                                                                           Db
                                                                                                                                                                                       Db
                                                                                                                                                                                                                  QУ
                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                     Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                     Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             δÃ
                                                                                                                                                                                                                                                  Dр
                                                                                                                                                                                                                                                                              Qγ
                                                                                                                                                                                                                                                                                                                                          VΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   da
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    V
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            OTHER INFORMATION: Description of Artificial Sequence:
OTHER INFORMATION: EYFP-DEAD-MAPKDM construct
US-09-513-783A-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FILE REFERENCE: 97-022-L1
CURRENT APPLICATION NUMBER: US/09/513,783A
CURRENT FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 180
SOFTWARE: PatentIn Ver. 2.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT ORGANISM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH:
                                                                                                                                                                                                                                                                                                             485
                                                                                                                                                                                                                                                                                                                                          462
                                                               667
                                                                                             669
                                                                                                                           625
                                                                                                                                                                                                                    566
                                                                                                                                                                                                                                                  520
                                                                                                                                                                                                                                                                                518
                                                                                                                                                         609
                                                                                                                                                                                                                                                                                                                                                                       446
                                                                                                                                                                                                                                                                                                                                                                                                       407
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 348
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               290
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             294
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         234
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    210
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        73
                                                                                                                      VSLSETEEALAKNDVRSAE-IPVAQ-ETVVSETEVVLATEVVLP----
                                                                                    TYKAPNGYTLEDLFATIKYYVEHP--DERPHSNDGWGN-ASEHVLGKKD-HSEDPNKNFK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HYQQNTI
   KDMSPLP
                                ADEEPVEETPAE---
                                                                                                                                       ANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDH 668
                                                                                                                                                                                                                                                                                                                                                                                                 YVFEEKGISRYVFAKDLPSETVKNLE----SKLSKQESVSHTLTAKKENVAPRDQEFYD 461
                                                                                                                                                                                                                                                                                                                                                                                                                               LADLLFVSSGPTNASAFTERDNPS----EDSYGMLPCDSF---ASTAVVSQEWSVGAPN 445
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LLKQLYKLP----LSQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      VTTFGYGLQCFARYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLV 121
                                                                                                                                                                                      SSTKDV
                                                                                                                                                                                                                                                                           PERLGKPNSQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAY----
                                                                                                                                                                                                                                                                                                                                     KAYNLLTEAHKALFENKGRNSDFQALDKLLERLND----ESTNKEKLVDDLLAFLAPITH 517
                                                                                                                                                                                                                                                                                                                                                                        SPCSES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IARIIP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              FLEERVDYPDYQSSQNWPEDASFCFQPQQVLDTDQ---AEPFNEH---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        MDELYK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HREGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NRIELK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NEVK-G
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DHYHYI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ITDQGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     175;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Ar
                                                                                                                                                                                                                 -VTPHMGHSHWIGKDSLSDKEKVAA-----
                                                          ----SDPITTLTKDVTLPLEAERPLVTDMTPSLETEMTLGKETAPPTETNLGMA
                                                                                                                                                                                  APPMEEEIVPGNDTTSPKETETTLPIKMDLAPPEDVLLTKETELAP----AKGM
                                                                                                                                                                                                                                                                                                                                                                                                                                                               LRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |::| :::|
PRDEADSADLSLVDALTEPPPEIEGEIKRDFMAALEAEPYDDIVGETVEKTEFI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PIGDGPVLL - - - - - - - PDNHYLSYQSALSKDPNEKRDHMVLLEFVTAAGITLG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRNDGAVALARSQGRYTTDDGYIFNASDIIEDTGD----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GIDFKEDGNILGHKLEYNYNSHNVYIMADKOKNGIKVNFKIRHNIEDGSVQLAD 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                3.4%; Score 147; DB 4; Length 812; ilarity 19.8%; Pred. No. 0.012; Conservative 103; Mismatches 331; Indels 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PKNELSASEL - - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GYVIKVDG----
ESEVTLGKDVVILPETKVAEFNNV-TPLSEEEV--TSVKDMSPSA---ETEAP
                                                                                                                                                                                                                                            ----EITKPDVILANVTQPSTESDMFLAQDMELLTGTEAAHANNIILPTEPDE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----VTSHGDHYHYYNGKVPYDAIISEELLMKDP-NYKLKDE-----DIV 118
                                                                                                                                                                                                                                                                                                                                                                     ----PEVTIETLQPATELSKAAEVESVKEQLPAK--
                            ---PEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAG 776
                                                                                                                                                                                                                                                                                                         ---ALETMAEQTTDVVHSPSTDTTPGPDTEAALAKDIE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ----KYYVYLKDAAHADNVRTKEEINRQKQEHS----Q 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -----AAAEA-----
                                                                                                                                                                                                              -----QAYTKEKGILPPSPDADVK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -----AYIVPHG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             274;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                   624
                                                                                                                                                                                                                                                                                                                                                                                                                                                               406
                                                                                         724
                                                                                                                                                                                                                                               568
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              393
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                233
                                                                                                                                                                                                                                                                                                                                                                     484
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        347
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       289
                                                                                                                       999
                                                                                                                                                                                                                                                                            565
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          346
```

B

771

LAKNADLHSGTELIVDNS--MAPASDLALPLETKVATVPIKDK 811

- IMDNNSIMAEAEKLLALLKGSNPSSVSKEK

814

Qy

LRNNLTLQ-

```
; ORGANISM: S.pombe US-09-541-782-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    RESULT 8
US-09-541-782-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Ъ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                    ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Дb
                                                                            g
                                                                                                           80
                                                                                                                                               밁
                                                                                                                                                                             Š
                                                                                                                                                                                                                 g
                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                   Ър
                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                      Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        g
          DЬ
                                          Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL INFORMATION: APPLICANT: Nislow,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence 6, Application Patent No. 6284480
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SEQ ID NO 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                FILE REFERENCE: 1015
CURRENT APPLICATION NUMBER:
CURRENT FILING DATE: 2000-0
NUMBER OF SEQ ID NOS: 10
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Sakowicz, Roman
APPLICANT: Beraud, Christophe
TITLE OF INVENTION: Antifungal
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          147
                                                                                                                                                                                                                  518
                                                                                                                                                                                                                                                                                   464
          694
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            43
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GKQATQKTENLTPDEVSKREGINAE ----
MSSQKLGNGISSELIELQKDMKESYRQLVQELRSLYNLQHTHEESQKELMYGVRNDIDAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           EEI-RDLLVSEEL--RKPARVFEDTSRRGNVVITGIEESY-IKNAGDGLRLLREGSHRRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GKVPYDAIISEELLMKDPNYKLKDED----IVNEVKGGYVIKVDGKYYVYLKDAAHADN
                                                                           QLLISMTKITEHFQSLDEALQSARSSCAVPNSSLDLIVSELKDSKNSLLDALEHSLQDIS
                                                                                                                                              ERNNKEN----ENNFWNLKFNLLTMLRSFHGSFTDETNGYFTLLNDFNASMEELLNTHSN
                                                                                                                                                                                                                                                                                    NKDLLCQEQARKLEVLDLNVKS-----SREQLQYVSKSNQEHKKEVEALQLQLVNSSTE
                                                                                                                                                                                                                                                                                                                   MSEL----EERIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKI--
                                                                                                                                                                                                                                                                                                                                                    {\tt K---SIRNKPQNNQLVFRKVLIKDLVLDIERLKNDLNATRKKNGVYLAESTYKELMDRVQ}
                                                                                                                                                                                                                                                                                                                                                                                      NDIDSLLKQLYKLPLSQRHVESDGLVFDPAQI-----TSRTARGVAVPHGDHYHFIPYSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRT--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GQTGTGKTYTMSGD-LSDSDGILSEGAGLIPRALYQLFSSLDNSNQEYAVK-CSYYELYN 204
                                                                                                                                                                              LTAKKENVAPRDQEFYDKAYNLL--
                                                                                                                                                                                                                  LESVKSENEKLKNELVLEIEKRKKYETNEAKITTVATDLSQYYRESKEYIASLYEKLDRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VAATKCNDLSSRSHSIFTITLHRKVSSGMTDETNSLTINN----
                                                                                                              KALFENKGRNSDFQALDKLLER-
                                                                                                                                                                                                                                                                                                                                                                                                                       NALVEKAHHIPYRESKLTRLLQDSLGGKTKTSMIVTVS---STNTNLEETISTLEYAARA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VRTKEEINRQKQEHS-----QHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIEDT
                                            -HPERLGKPNS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              182;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                   -DSNSSLVSQLVRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSHT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            3.4%; ilarity 18.6%; Conservative 1:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DATE: 2000-04-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                          -ΥR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Corey
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---ASKLHMVDLAGSENI--GRSGAENKRARETGMINQSLLTLGRVI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US/09541782
                                                                                                                                                                                                                                                                                                                                                                                                                                                       - RQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              136;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  US/09/541,782
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Score 145.5; DB Pred. No. 0.024;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Assay
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---QIVIKI--TDQGYVTSHGDHYHYYN
                                            -QIEYTEDE---
                                                                                                              -LNDESTNKEKLVDDLLAFLAPIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              357;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length 1073;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ---NSDDLLR--
                                             -VR--IAQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                301;
                                                                                                                                                                                 -TEAH 471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Gaps
                                                                                                                                                                                                                                                      444
                                                                                                                                                                                                                                                                                                                                                       463
                                                                                                                                                                                                                                                                                                                                                                                                                        406
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            200
                                               540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           307
                                                                                                                 516
                                                                                                                                                                                                                                                                                       517
                                                                                                                                                                                                                                                                                                                                                                                                                                                          284
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            243
             753
                                                                                 693
                                                                                                                                                 633
                                                                                                                                                                                                                                                                                                                                                                                       339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 41;
```

```
Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RESULT 9
US-09-723-820-6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             밁
                                                                                                                                                                                                             ДЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                              Qy
                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                  QУ
                              Дb
                                                         QУ
                                                                                        Db
                                                                                                                   QУ
                                                                                                                                                    g
                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                          US-09-723-820-6
9
                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Sequence
                                                                                                                                                                                                                                                                                                                                                           Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Patent No.
                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
TITLE OF I
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLICATION NUMBER: US/09/723,820 CURRENT FILING DATE: 2000-11-28 PRIOR APPLICATION NUMBER: 09/541,782 PRIOR FILING DATE: 2000-04-03
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NUMBER OF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FILE REFERENCE: 1015
                                                                                                                                                                                                                                                                                                                                                                                                                       TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: S
                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         754
                                                                                                                                                                                                                                                                                                                                                                                                                                                     ID NO
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   646
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                608
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    801
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               757
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             912
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           697
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             599
                                                                                                                                                                                                                                                                        147
                              350
                                                                                         308
                                                                                                                      201
                                                                                                                                                    261
                                                                                                                                                                                146
                                                                                                                                                                                                               205
                                                                                                                                                                                                                                           91
                                                                                                                                                                                                                                                                                                     43
                                                                                                                                                                                                                                                                                                                                               Local
                                                                                                                                                                                                                                                                                                                                                                                                                          PRT
                                                                                                                                                                                                                                      GKVPYDAIISEELLMKDPNYKLKDED-----IVNEVKGGYVIKVDGKYYVYLKDAAHADN 145
                                                                                                                                                                                                                                                                      GOTGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ADKYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LLKGS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LLAKVTDSSLK-----ANATETLAGLRN----NLTLQIMDNNSIMAEA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             HSEDNTKEKHQQLLDLLESLVGNNDNL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         HSNDG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NGSQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             LPPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VKTCT
                                                                                                                                                                                                              EEI-RDLLVSEEL--RKPARVFEDTSRRGNVVITGIEESY-IKNAGDGLRLLREGSHRRQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TPSWT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NGNLI
                                                                                                                   GDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRT--
                                                                                                                                                                                                                                                                                                     GKQATQKTENLTPDEVSKREGINAE - -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ---KI
                           NALVEKAHHIPYRESKLTRLLQDSLGGKTKTSMIVTVS---STNTNLEETISTLEYAARA
                                                                                                                                                  VAATKCNDLSSRSHSIFTITLHRKVSSGMTDETNSLTINN-----
                                                                                                                                                                    VRTKEEINRQKQEHS-----QHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIEDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                6, Application US/09723820
o. 6468760
 NDIDS
                                                                                                                                                                                                                                                                                                                                 182;
                                                                                                                                                                                                                                                                                                                                                                                                                                        1073
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T: Sakowicz, Roman
T: Beraud, Christophe
TINVENTION: Antifungal Assay
                                                                                                                                                                                                                                                                                                                                                                                                                                                     σ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SEQ ID NOS: 10 FastSEQ for Windows Version 4.0
                                                                                                                                                                                                                                                                                                                                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Nislow,
                                                                                                                                                                                                                                                                       GKTYTMSGD-LSDSDGILSEGAGLIPRALYQLFSSLDNSNQEYAVK-CSYYELYN 204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RDSSLIKETTN 1023
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NPSSVSKEKIN 816
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TDHVLKGTTSLANHTNELLGLGDESLCNLETTIEDTSLVKLETTGDTPSKRELPA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         WGNASEHVLGKKDHSEDPNKNFKADEEPVEETPAEPEVPQVETEKVEAQLKEAEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LDSKSKAIHSNSRSMYDHCLALAESQKQGVNLEVQTLDRLLQKVK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -ADILHSHLNDTNSNIRKANEIMNNRSEEFLRNAASQAEIVGANKERIQKTVE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TSLNDADII-LSDYISDQKSKFESKQQDLIANIGKIVSNFLQEQNESLYTK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TS--DGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IPHKDH-YHNIKFAWFDDHTYKAPNG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DADVKANPTGDSAAAI--YNRVKGEKRIPLVR-----
 LLKQLYKLPLSQRHVESDGLVFDPAQI-
                                                                                                                                                                                                                                                                                                                                                                                                          .pombe
                                                                                                                                                                                                                                                                                                                              3.4%; Score 145.5; DB 4; larity 18.6%; Pred. No. 0.024; Conservative 136; Mismatches 357;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Corey
                                                                                         --ASKLHMVDLAGSENI--GRSGAENKRARETGMINQSLLTLGRVI
                                                            -RQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQS
                                                                                                                                                                                                                                                                                                     ---QIVIKI--TDQGYVTSHGDHYHYYN 90
  -TSRTARGVAVPHGDHYHFIPYSQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -YTLEDLFATIKYYVEHPDERP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               ---IDSIKTPHTELQ--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -----LPYMVEHTVEVK
                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                             Length 1073;
                                                                                                                                                    ----NSDDLLR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --EKLLA 800
                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            756
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             645
                                                                                         349
                                                                                                                                                                                                               260
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        911
                                406
                                                             284
                                                                                                                                                     307
                                                                                                                        243
```

```
RESULT 10
US-08-961-083-118
                                                                                                                                                                                                                                                                                                                                                                                         δã
                                                                                                                                                                                                                                                                                                                                                                                                                    g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                             Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вb
                                                                                                                                                                                                                                                                     Patent No. GENERAL I
                                                                                                                                                                                                                                                                                              Sequence
PRIOR APPLICATION DATA
                                                    CURRENT APPLICATION DATA:
                                                                                                      COMPUTER READABLE FORM: MEDIUM TYPE: Diskett
                                                                                                                                                                                                             APPLICANT: Choi et. a.
TITLE OF INVENTION: SI
NUMBER OF SEQUENCES: (
CORRESPONDENCE ADDRESS
                                                                                                                                                                                                                                                                                                                                                                 1008
                                                                                                                                                                                                                                                      APPLICANT: Choi e
                                                                                                                                                                                                                                                                                                                                                                                          801
                                                                                                                                                                                                                                                                                                                                                                                                                    951
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  754
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    694
                                                                                                                                                                         STREET:
CITY: 1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        634
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 472
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           578
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                518
                                                               COMPUTER: HP Vectra
OPERATING SYSTEM: MS
SOFTWARE: ASCII Text
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   464
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        407
             APPLICATION NUMBER: FILING DATE: CLASSIFICATION: 43
                                                                                                                                                           CITY: Rockville
STATE: Maryland
                                                                                                                                                                                                   ADDRESSEE:
                                                                                                                                                OUNTRY:
                                                                                                                                                                                                                                                                                                                                                                TPSWTRDSSLIKETTN
                                                                                                                                                                                                                                                                                                                                                                                       LLKGSNPSSVSKEKIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ADKYTTS---DGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MSSQKLGNGISSELIELQKDMKESYRQLVQELRSLYNLQHTHEESQKELMYGVRNDIDAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                QLLISMTKITEHFQSLDEALQSARSSCAVPNSSLDLIVSELKDSKNSLLDALEHSLQDIS
                                                                                                                                                                                                                                                                                                                                                                                                                                          LLAKVTDSSLK ----ANATETLAGLRN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     HSEDNTKEKHQQLLDLLESLVGNNDNL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           HSNDGWGNASEHVLGKKDHSEDPNKNFKADEEPVEETPAEPEVPQVETEKVEAQLKEAEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NGSQLLDSKSKAIHSNSRSMYDHCLALAESQKQGVNLEVQTLDRLLQKVK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NGNLIIPHKDH-YHNIKFAWFDDHTYKAPNG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LPPSPDADVKANPTGDSAAAI --YNRVKGEKRIPLVR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VKTCTTSLNDADII-LSDYISDQKSKFESKQQDLIANIGKIVSNFLQEQNESLYTK----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ERNNKEN----ENNFWNLKFNLLTMLRSFHGSFTDETNGYFTLLNDFNASMEELLNTHSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LESVKSENEKLKNELVLEIEKRKKYETNEAKITTVATDLSQYYRESKEYIASLYEKLDRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                K---SIRNKPQNNQLVFRKVLIKDLVLDIERLKNDLNATRKKNGVYLAESTYKELMDRVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               KALFENKGRNSDFQALDKLLER-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NKDLLCQEQARKLEVLDLNVKS---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             MSEL--
                                                                                                                                                                                                                                                                                  118, Application US/0896108
5. 6159469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LTAKKENVAPRDQEFYDKAYNLL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -HPERLGKPNS--
                                                                                                                                                                                                                                                                                                                                                                                                              --KITDHVLKGTTSLANHTNELLGLGDESLCNLETTIEDTSLVKLETTGDTPSKRELPA
                                                                                                                                  20850
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---ADILHSHLNDTNSNIRKANEIMNNRSEEFLRNAASQAEIVGANKERIQKTVE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --DSNSSLVSQLVRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSHT
                                                                                                                                                                                      E: Human Genom
                                                                                                                                                 USA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --EERIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKI-
                                                                                      HP Vectra 486,
               435
                                                                                                                                                                                                  Genome Sciences,
                                                                           MSDOS version
                                                                                                                                                                                                                                       al.
Streptococcus
                                                                                                                                                                                                                             45
                                                                                                                                                                                                                                                                                                                                                                                         816
                                                                                                                                                                                                                                                                                                                                                                1023
                                       us/08/961,083
                                                                                                                                                                                       Avenue
                                                                                                       3.50 inch,
                                                                                           33
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ----SREQLQYVSKSNQEHKKEVEALQLQLVNSSTE
                                                                             5
                                                                                                                                                                                                                                       pneumoniae
                                                                                                        1.
                                                                                                                                                                                                                                                                                                                                                                                                                                         -NLTLQIMDNNSIMAEA-
                                                                             2
                                                                                                       4 Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -QIEYTEDE--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -LNDESTNKEKLVDDLLAFLAPIT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --YTLEDLFATIKYYVEHPDERP
                                                                                                    torage
                                                                                                                                                                                                                                      Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IDSIKTPHTELQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   --LPYMVEHTVEVK
                                                                                                                                                                                                                                       and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -VR--IAQL
                                                                                                                                                                                                                                                                                                                                                                                                                                         --EKLLA
                                                                                                                                                                                                                                    Vaccines
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -TEAH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Ħ
                                                                                                                                                                                                                                                                                                                                                                                                                1007
                                                                                                                                                                                                                                                                                                                                                                                                                                         800
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   950
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       911
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 696
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          860
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           808
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     598
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            517
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  693
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            516
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      633
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        577
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  463
```

```
Db
                                 Qy
                                                                DЬ
                                                                                                                           Db
                                                                                                                                                      QУ
                                                                                                                                                                                      Db
                                                                                                                                                                                                                QУ
                                                                                            Qy
                                                                                                                                                                                                                                               DЬ
                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                          Db
                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qy
                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     US-08-961-083-11
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       JJ12

LACTERISTICS:

1040 amino acids

LIPE: amino acid

STRANDEDNESS: Sing'

TOPOLOGY: ling

MOLECULE TYPE

08-961-09
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELECOMMUNICATION INFORMATION: TELEPHONE: (301) 309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
     899
                                  734
                                                                                             889
                                                                                                                           564
                                                                                                                                                        642
                                                                                                                                                                                      531
                                                                                                                                                                                                                   586
                                                                                                                                                                                                                                               485
                                                                                                                                                                                                                                                                            526
                                                                                                                                                                                                                                                                                                          432
                                                                                                                                                                                                                                                                                                                                       470
                                                                                                                                                                                                                                                                                                                                                                     380
                                                                                                                                                                                                                                                                                                                                                                                                  412
                                                                                                                                                                                                                                                                                                                                                                                                                                320
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         135
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     212
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               167
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             233
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     173
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Local Sin
hes 154;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME: Brookes, A. Anders REGISTRATION NUMBER: 36, REFERENCE/DOCKET NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICATION NUMBER: FILING DATE:
LNGATVRDLDIKTVSADSKENVAALAKAANSANINNVAVEGKISGAKSVAGLVASATNTV
                           PAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSL-----KANATETLAGLRNNLTLQI 785
                                                                                         YVEHPDERPHSNDGWGNASEHVLGKKDHS--
                                                                                                                         KVTVAVDQLVEEGTDGYK - -
                                                                                                                                                                                    TDTAKYFVKVK-
                                                                                                                                                                                                             KVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHT----
                                                                                                                                                                                                                                                                    SQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKE
                                                               YTLASDM
                                                                                                                                                                                                                                                                                                                 AHKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPI---TH-PERLGKPN | : : | : | : | : | : | : | : |
                                                                                                                                                                                                                                                                                                                                                              KEVSRTEVA---PVNEVVKVGTLVKVKPTVEITNLTKVEN----KKSITVSYNLIDTTS
                                                                                                                                                                                                                                                                                                                                                                                         KGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLL--TE 469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               AVALARSQGRYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEAFL
                                                                                                                                                -VEVKNGNLIIPHKDHYHNIKFAWFDDHTY-----KAPNGYT-LEDLFATIK-----Y
                                                                                                                                                                                                                                             E--ENTETSTODFOL--EYKKIEIKDIDSVELYGKENDRY--
                                                                                                                                                                                                                                                                                                          AYVS--
                                                                                                                                                                                                                                                                                                                                                                                                                         PALEVTTRNRTEIQNIPYTTEEIQDPTLLKNRRKIERQGQAGTRTIQYEDYIVNGNVVET
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              PEYKLPLETKGTQEPGHEGEAAVREDLPVYTKPLETKGTQGPGHEGEAAVREEEPAYTEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QLYKLP:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SGRGNLSNSRTYRRQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LATKGTQEPGHE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 RTARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KVSL--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LKIEGYQYIGYIK-TKKQDNTELSRTVDGKYSAQRDSQPNSTKTSDVVHSADLEWNQGQG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             IKVDGK
                                                                                                                                                                                                                                                                                                                                                                                                                                                            PGPQPA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               S----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YYV-YLKDAAHADNVRTKEEINRQKQEHSQHREGGTPRND----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       ilarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SQRHVESDG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -QGEASGDDG-----
                                                                                                                                                                                                                                                                                                   --AKTQVFHG-DKLVKEVDIENPAKEQVISG-LDYYTPYTVKTHLTYNLGENN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       3.48;
larity 19.28;
Conservative 111
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ----QVEQNPDHKGESVVRPTVPEQGNPVSATTVQSAEEEVLATTND----R
                                                           -TADEVSLGDKQTSYLTGAFTGSLIGSDGTKSYAIYDLKKPLFDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --GKATVREETLEYTEPVATKGT----QEPEHEGERXVEEEL 319
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             36,373
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    b; Score 144; DB 4; Length 1040;
b; Pred. No. 0.03;
111; Mismatches 284; Indels 25
                                                                                                                     ----DDYTFTVAKSKAEQPGVYTSFKQLVTAMQSNLSGV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ----LVF---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                       ~PNL-----KIDSNSSLVSQLVR---KVGEGYVFEE 411
                                                                                                                                                                                 -SDRFKEMYLPVKS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----LSEKSSIAADNLSSNDSFA
                                                                                        - EDPNKNFKADE - - EPVEET
                                                                                                                                                                                                                                           ---RRYL---SLSEAP
                                                                                                                                                                                -ITENTDGTY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -DPAQITS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      252;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ជ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Gaps
                                                                                                                                                                               563
                                                                                                                                                                                                                                                                                                                                  525
727
                                                                                      733
                                                                                                                                                                                                                                                                                                    484
                                                                                                                    616
                                                                                                                                                  687
                                                                                                                                                                                                                                          530
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      292
                                                                                                                                                                                                                                                                                                                                                                431
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 271
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           211
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            318
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     166
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         172
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      38;
```

```
80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RESULT 11
US-09-816-703A-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Sequence 2, Application US/09816703A Patent No. 6455026 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          SEQ
                                                                                                                                                                                               JUN: (223)..(223)
JIHER INFORMATION: Glyconame/Key: SITE
LOCATION: (223)
OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE OF INVENTION: Use of Protein TITLE OF INVENTION: Treatment and FILE REFERENCE: 262/235 AGY CURRENT APPLICATION NUMBER: US/09/8 CURRENT FILING DATE: 2001-03-23 NUMBER OF SEQ ID NOS: 2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Melcher, Thorsten APPLICANT: Mueller, Sabine APPLICANT: Chin, Daniel
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SOFTWARE:
                                                                                                                                                                                                                                                   NAME/KEY: SITE
LOCATION: (105)..(100)
OTHER INFORMATION: (100)
NAME/KEY: SITE
LOCATION: (134)..(100)
OTHER INFORMATION: (100)
NAME/KEY: SITE
LOCATION: (223)..(200)
OTHER INFORMATION: (200)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      LENGTH: 23
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Homo sapiens FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: Reference LOCATION: (1)..(231
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: (1)..(24)
OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LOCATION: (25)..(1635)
OTHER INFORMATION: Ext
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: DOMAIN LOCATION: (25)...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  NAME/KEY: SIGNAL
                                                             NAME/KEY: SITE LOCATION: (381
                                                                                                  NAME/KEY: SITE LOCATION: (324)...(324) OTHER INFORMATION: Gly
                                                                                                                                                     NAME/KEY: DOMAIN LOCATION: (312)..() OTHER INFORMATION:
                                                                                                                                                                                                       LOCATION: (232)..(232)
OTHER INFORMATION: Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: DOMAIN
LOCATION: (34)..(302)
OTHER INFORMATION: Carbonic-anhydrase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: misc_feature
              NAME/KEY: SITE LOCATION: (497)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Ö
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  MDNNSIMAEAEKLLALLKGSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ION: (1)..(2314)
INFORMATION: Krueger, N.X. and Saito, H.
INFORMATION: ne-phosphatase, PTP zeta, i
INFORMATION: inal receptor domain homolo
INFORMATION: 1. Acad. Sci. USA 89 (16),
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  IENSSFTG---KLIANHQDSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ION: (1)..(2314)
INFORMATION: Levy, J.B., et al.; The cloning of a receptor-type protein INFORMATION: ne phosphatase expressed in the central nervous system; J. INFORMATION: Chem. 268 (14), 10573-10581 (1993)
                                                  ION: (381)..(381)
INFORMATION: Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                              ON: (25)..(2314)
INFORMATION: Mature
ON: (497)..(
INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         PatentIn version 3.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Reference
                                                                                                                                                                                                                                                                                                                        (134)..(134)
                                                                                                                                                                                                                                                                                                                                                                             (105)..(105)
                                                                                                                                                                     . (406)
              (497)
                                                                                                                                                                                                                                                          Glycosylation;
                                                                                                                                                                                                                                                                                                           Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Extracellular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ВУ
                                                                                                      Glycosylation;
                                                                                                                                                        Fibronectin
                                                                                                                                                                                                                                                                                                                                                              Glycosylation;
Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 chain;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              US/09/816,703A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    806
                                                                                                                                                        Type-III
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                protein-tyrosine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Tyrosine Phosphatase Zeta as Visualization of Brain Tumors
                                                                                                                                                                                                                                                                                                                                                             N-linked
                                                                                                                                                                                                           N-linked
  N-linked
                                                                                                                                                                                                                                                            N-linked
                                                                                                                                                                                                                                                                                                               N-linked
                                                     N-linked
                                                                                                       N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     aito, H.: A human transmembrane protein-tyros zeta, is expressed in brain and has an N-tern homologous to carbonic anhydrases; Proc. Na (16), 7417-7421 (1992)
                                                                                                     (GLCNAC...)
                                                                                                                                                                                                                                                          (GLCNAC...)
                                                                                                                                                                                                                                                                                                             (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                               (GLCNAC...)
                                                    (GLCNAC..
  (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 phosphatase
  Ċ
                                                    ·
                                                                                                                                                                                                                                                                                                                                                              (potential)
                                                                                                      (potential)
                                                                                                                                                                                                                                                          (potential)
                                                                                                                                                                                                                                                                                                              (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     zeta
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Biomolecular
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         an N-term
Proc. Nat
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         tyros
Biol.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Targe
```

```
LOCATION: (501)..(501)
OTHER INFORMATION: Glycosylation; N.
NAME/KEY: SITE
LOCATION: (552)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         OTHER INFORMATION: Glycosylation; NAME/KEY: SITE
LOCATION: (1456)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFORMATION: Glycosylation; NAME/KEY: SITE LOCATION: (1122)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: BII
LOCATION: (6:
OTHER INFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: (677)....,
OTHER INFORMATION: Glycosylation;
NAME/KEY: VARSPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: SITE
LOCATION: (629)..(629)
OTHER INFORMATION: Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    LOCATION: (587)..(587)
OTHER INFORMATION: Cho
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OTHER
                                                                                                                                                                                                                                                                                                                                                    NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             NAME/KEY: SITE
LOCATION: (602)..(602)
OTHER INFORMATION: Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LOCATION: (1548)...(1548)
OTHER INFORMATION: Chondroitin sulfate (potential)
NAME/KEY: BINDING
LOCATION: (1550)..(1550)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LOCATION: (755)..(1614)
OTHER INFORMATION: Splicing variant;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY:
                                                                                                                                                                                                  NAME/KEY:
LOCATION:
                                                                                                                                                                                                                                                                  OTHER INFORMATION:
NAME/KEY: CONFLICT
LOCATION: (1722)...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LOCATION: (1550)..(1550)
OTHER INFORMATION: Chondroitin sulfate (potential)
NAME/KEY: SITE
LOCATION: (1561)..(1561)
OTHER INFORMATION: Glycosylation; N-linked (GLCNAC NAME/KEY: SITE
LOCATION: (1617)..(1617)
OTHER INFORMATION: Glycosylation; N-linked (GLCNAC OTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            NAME/KEY: BINDING LOCATION: (1548).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LOCATION: (1050)..(1050)
OTHER INFORMATION: Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LOCATION: (1017)..(1017)
OTHER INFORMATION: Glycosylation;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LOCATION: (997)..(997)
OTHER INFORMATION: Chondroitin sulfate (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NAME/KEY:
                 NAME/KEY: ACT_SITE
LOCATION: (1932)..(1932)
OTHER INFORMATION: Active site; by s
NAME/KEY: DOMAIN
LOCATION: (1998)..(2314)
OTHER INFORMATION: Protein-tyrosine
                                                                                                                                                                                                                                                      OTHER
                                                                                                                                                                            OTHER
                                                                                                                                                                                                                                                                                                                                                                                                             OTHER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ION: (552)..(552)
INFORMATION: Glycosylation;
                                                                                                                                                                           ION: (1744)..(1997)
INFORMATION: Protein-tyrosine
                                                                                                                                                                                                                      [ON: (1722)..(1728)
INFORMATION: Missi
(EY: DOMAIN
                                                                                                                                                                                                                                                                                                                                                                                                          (EY: TRANSMEM (1636)..(1661) INFORMATION: Transmembrane
                                                                                                                                                                                                                                                                                                                             EY: DOMAIN
ON: (1662)..(2314)
INFORMATION: Cytoplasmic
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              BΙ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              C_{1}
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          9)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        S C
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                B ]
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INDING
isc_feature
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             37)..(637)
ATION: Chondroitin
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 NDING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Chondroitin sulfate
                                                                                                                                                                                                                                                      Missing
                                                                                                                                                                                                                                                     (in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                sulfate
                                                                                                                                                                                                                                                            ref.
                                                                                                                                                                                                                                                                                                                                (potential)
                                                                                                                                                                                                                                                                                                                                                                                                           region;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-linked (GLCNAC...)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           N-linked (GLCNAC..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-linked (GLCNAC...)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        N-linked
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      N-linked
                                                                                                    similarity
                                                                                                                                                                              phosphatase
                        phosphatase
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        missing (in
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (potential)
                                                                                                                                                                                                                                                                                                                                                                                                              potential
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (GLCNAC..
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    (GLCNAC...)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (GLCNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     (GLCNAC...)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (GLCNAC.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            (GLCNAC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            short
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ٺ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         \sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  (potential)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          (potential)
```

GENERAL INFORMATION:

APPLICANT: Jono, Keith E.

APPLICANT: Plowman, Gregory

TITLE OF INVENTION: KINASE (

NUMBER OF SEQUENCES: 53

GENES AND USES

CORRESPONDENCE

ADDRESSEE:

```
Š
                                                                                                                                                                                      B
                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                         Š
                                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                                      Ωy
                                                                                                                                                                                                                                                                                                                             В
                                                                                                                                                                                                                                                                                                                                                   Ωy
                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                        Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Q
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ; LOCATION: (2222)..(2222); OTHER INFORMATION: Ancestral active US-09-816-703A-2
                        δÃ
                                                                     Ş
                                                                                             g
                                                                                                                                          B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                밁
    멍
                                                 멍
                                                                                                                  δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Query
                                                                                                                                                                                     1479
                                                                                                                                          1537
                                                                                                                                                                                                                                                                                  1366
                                                                                                                                                                                                                                                                                                                               1309
                                                                                                                                                                                                                                                                                                                                                                             1265
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      1151
    1717
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1091
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1031
                                                                                                                                                                                                                                   1426
                                                                                                                                                                                                            531
                                                                                                                                                                                                                                                           480
                                                                                                                                                                                                                                                                                                        465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            260
                                                657
                                                                                                                   604
                                                                                                                                                                 563
                                                                                                                                                                                                                                                                                                                                                     416
                                                                                                                                                                                                                                                                                                                                                                                                  356
                                                                                                                                                                                                                                                                                                                                                                                                                                               307
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          230
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             994
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           954
                          677
                                                                       648
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            GEW--
                                                                                                                   DADV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GKYYVYLKDAAHADNVRTKEEINRQKQEHSQHREGGTPRNDGAVAL-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          VGVTYQGSLFSGPSHI ---
TEE--FETLKEFYQEVQSCTVDLGITADSSNHPDNK-HKN
                                                                       NI.
                                                                                           IKITDQGYVTSHGDHYHYYNGKVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVD
             TLEDLFATIK-YYVE-
                                                                                                                                                              DAYVTPHMGHSHWIGK---DSLSDKEKVA--AQAYTKEK---GIL-
                                                                                                                                                                                     NSEEDNRVTSVSSDSQTGMDRSPGKSPSANGLSQKHNDGK--EENDIQTGSALLPLSPES
                                                                                                                                                                                                                                  DDDDDDRDSDGLSIHKCMS-CSSYRESQEKVMND--
                                                                                                                                                                                                                                                                                SVPIGNGHVAITAVSPHRDGSVTSTKLLFPSKATSELSHSAKSDAGLVGGGEDGDTDDDG
                                                                                                                                                                                                                                                                                                        NL-LTEAH
                                                                                                                                                                                                                                                                                                                             RHVFATPVLSIDEPLNTLINKLIHSDEI----LTSTKSSVTGKVFAGIPTVASDTFVSTDH
                                                                                                                                                                                                                                                                                                                                                   RYVFAKDLPS--
                                                                                                                                                                                                                                                                                                                                                                            ASEKYEPVLLKSESSHQVVP-
                                                                                                                                                                                                                                                                                                                                                                                                RSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFEEKGIS
                                                                                                                                                                                                                                                                                                                                                                                                                        DPILVETPKVDKISSTMLHLIVSNSASSENMLHSTSVPVFDVSPTSHMHSASLQGLTISY
                                                                                                                                                                                                                                                                                                                                                                                                                                                DGLVFDPAQ-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SISSTKGMFPGSLAHTTTKVFDHEISQVPENNFSVQPTHTVSQASGDTSLKPVLSANSEP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              TSVFGDDNKALSKSEIIYGNETELQIPSFNEMVYPSESTVMPNMYDNVNKLNASLQETSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     T----DDGYIFNASDIIEDTGDAYIVPHGDHYHY--
                                               ILIYWRKCFQTAHFYLEDSTSPRVISTPPTPIFPISDDVGAIPIKHFPKHVADLHASSGF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       al Similarity
169; Conser
                                                                                                                                                                                                            TEDEVRIAQLADKYTT-
                                                                                                                                                                                                                                                        RNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERLGKPNSQIEY-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     3.3%; Solarity 19.2%; Pa
Conservative 113;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -SGASSDS-
                                                                                                                                                                                                                                                                                                                                            ETVKNLESKLSKQESVSHTLTAKKENVAPR--
                                                                                                                  -KANPTGDSAAAIYNRVKGEKR--IPLVRLPYMVEHTVEVKNG
                                                                                                                                                                                                                                                                                                                                                                                                                                              -ITSRTARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          --PIPKSSLITPTASLLQPTHALSG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Score 142.5; DE Pred. No. 0.14; 3; Mismatches 2
                                                                                                                                                                                                                                                                                                        -KALFENKG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               site
                                                                                                                                                                                                                                                                                                                                                                          --SLYSNDELFQTANLEINQAH--PPKG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -NLSNSRTYR-RQNSDNTS--
                        HPDERPHSN
                                                                    IIPHKDHYHNIKFAWFDDHT--YKAPNGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EFLLPDTDGLTALNISSPVSVAEFTYT
                                                                                                                                                                                                            SDGYIFDEHDI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     267;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DВ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       --IPK--
                                                                                                                                                                                                                                  -SDTHENSLMDQNNPISYSLSE
   1753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            4;
                         699
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -NELSASELAAAE
                                                                                                                                                                                                                                                                                                                                                   -DQEFYDKAY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ---RTNWVP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            2314
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ARSQGRYT
                                                                                                                                                                                                            ISDEG
                                                                                                                                                               -PPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ·-VPS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
                                                                                                                                                                                                                                                                                                                                                                                                415
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               130
                                                                     676
                                                                                                                                                                                     1536
                                                                                                                                                                                                                                                                                1425
                                                                                                                                                                                                                                                                                                                             1365
                                                                                                                                                                                                                                                                                                                                                                                                                        1264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           306
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1090
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     229
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            1030
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  184
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         993
                                                                                            165
                                                                                                                   647
                                                                                                                                                               603
                                                                                                                                                                                                            562
                                                                                                                                                                                                                                  1478
                                                                                                                                                                                                                                                                                                                                                    464
                                                                                                                                                                                                                                                                                                                                                                                                                                              355
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      43;
```

RESULT 12 US-08-976-255-14 ; Sequence 14, Application ; Patent No. 6136581

US/08976255

```
Дb
                                                      QУ
                                                                                    Дb
                                                                                                            QУ
                                                                                                                                           Db
                                                                                                                                                                   QУ
                                                                                                                                                                                                 Дb
                                                                                                                                                                                                                            QΥ
                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                               Вb
                                                                                                                                                                                                                                                                                                                                       QУ
 δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                            0S-08
                                                                                                                                                                                                                                                                                                                                                                                Query
Best I
                                                                                                                                                                                                                                                                                                                                                                    Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICATION NUMBER: 60/031,67 FILING DATE: No. 6136581ember ATTORNEY/AGENT INFORMATION: NAME: Warburg, Richard J. REGISTRATION NUMBER: 32,327 REFERENCE/DOCKET NUMBER: 229/TELECOMMUNICATION INFORMATION: TELEPHONE: (213) 489-1600 TELEFAX: (213) 955-0440 TELEX: 67-3510
                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY: linear MOLECULE TYPE: Prote )8-976-255-14
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          TELEX: 67-3
INFORMATION FOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             COMPUTER READABLE FORM:
MEDIUM TYPE: 3.5" Disket!
MEDIUM TYPE: storage
COMPUTER: IBM Compatible
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICATION NUMBER:
FILING DATE: No. 613
CLASSIFICATION: 435
PRIOR APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE: FastSEQ for CURRENT APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            SEQUENCE CHA
                                                                                                                                                                                                                                                      637
                                                                                                                                                                                                                                                                                 105
                             817
                                                                                    772
                                                                                                                                           718
                                                                                                                                                                                                 687
                                                                                                                                                                                                                            165
                                                                                                                                                                                                                                                                                                              582
                                                                                                                                                                     224
 382
                                                        334
                                                                                                                280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       STATE: Cal
COUNTRY: U
ZIP: 90071
                                                                                                                                                                                                                                                                                                                                                                              Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                STREET:
STREET:
CITY: I
                                                                                                                                                                                                                                                                                                                                        54
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     OPERATING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                               Match
                                                                                                               QASQSNDIDSLLKQLYKLPLSQRHVESDG--
QPAPNLKIDSNSSLVSQLVRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESV 441
                                                      FIPYSQMSELEERIARIIPLRYRSNHWVPDSRPEQPSPQPT--
                                                                                    QFAENKPGLSLL-
                                                                                                                                                                                                                                                                                MKDPNYKLKDEDIVNEVKGGYVIKVDGKYYVYLKDAAHADNVRTKEEINRQKQEHSQHRE
                             --PTS-
                                                                                                                                         ELSENFLFLQEKNLLKGSLSSKEHINDLQT--
                                                                                                                                                                     ELAAAEAFLSGRGNLSNSRTYRRQNSDNTSRTNWVPSVSNPGTT----NTNTSNNSNTNS
                                                                                                                                                                                                 KEKPRK-
                                                                                                                                                                                                                            GGTPRNDGAVALARSQGRYTTDDGYIFNASDI-IEDTGDAYIVPHGDHYHYIPKNELSAS
                                                                                                                                                                                                                                                                                                             TGPELSQLTALRSVELEESSTDEDFFQSSTDPKDSSLPGDLHVTSGPESPFNNIF--
                                                                                                                                                                                                                                                                                                                                       TPDEVSKREGINAEQIVIKITDQGYVTSHGD-----
                                                                                                                                                                                                                                                                                                                                                                   11 Simil
                                                                                                                                                                                                                                                      ---NDVDKSEDLPSHQKIFDLMELNG-VQADFKPATLSSSLD----NPKESVITGHFE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Los
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    California
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Suite 4700
                                                                                                                                                                                                                                                                                                                                                                3.3%; Score 140; DB 4; Length 1503; larity 19.4%; Pred. No. 0.11; Conservative 119; Mismatches 275; Indels 22
                            FETEETPRRV-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              503 amino acids
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Lyon & Lyon
33 West Fifth
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              RACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FastSEQ for Windows
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Angeles
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                        Protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 single
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       6136581ember
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              6136581ember
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      IBM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Diskette,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          US/08/976,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   60/031,675
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      P.C.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           14:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Street
                                                                                 QENVSTKGDDTDVMLTGDTLSTSLQSSPEVQVP-
                                                                                                                                                                                                 ---IFDSEPLCLSDN-----LMHQDNF-----DPLNVQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 229/18
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SOG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              1.44
                            -PPDSLPTQGETQPTCLDVIVPEDCLHQDISPDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      S 5.0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             255
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1997
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       1996
                                                                                                             ---LVFDPAQITSRTARGVAVPHGDHYH 333
                                                                                                                                          ----ELKNAGFTEAMLETSCRNSLDTEL
                                                                                                                                                                                                                                                                                                                                       ---HYHYYNG-KVPYDAIISEELL 104
                                                        PEP-
                                                                                                                                                                                                                                                                                                                                                                    228;
                                                        -SPGP
                                                                                                                                                                                                                                                                                                                                                                    Gaps
                             862
                                                                                                                                                                                                                                                                                 164
                                                        381
                                                                                                                                                                                                                                                       686
                                                                                                                                                                                                                                                                                                              636
                                                                                                                                                                     279
                                                                                    816
                                                                                                                                                                                                 717
                                                                                                                                                                                                                            223
```

```
RESULT 13
US-07-920-281C-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence
Patent No
GENERAL
                                             Query Match
                                                                                                                                                                     TELEX: 248345
INFORMATION FOR SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT: Garoff, Henrik
APPLICANT: Liljestrom, Peter
TITLE OF INVENTION: DNA Expression
TITLE OF INVENTION: Alphaviruses
NUMBER OF SEQUENCES: 27
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                                                                                           CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/07
FILING DATE: 13-AUG-1992
CLASSIFICATION: 435
                                                                                            TOPOLOGY: 1 MOLECULE TYPE:
                                                                                                                                                                                                     REFERENCE/DOCKET NUMBER: 82
TELECOMMUNICATION INFORMATION:
TELEPHONE: 703-241-1300
TELEFAX: 703-241-2848
                                                                                                                                        SEQUENCE CHARACTERISTICS:
LENGTH: 2431 amino aci
                                                                                                                                                                                                                                                                                                                                                                                                                         COMPUTER READABLE FORM: MEDIUM TYPE: Floppy
                                                                                                                                                                                                                                                                                                 ATTORNEY/AGENT INFORMATION:
                            Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    STREET:
CITY: 1
STATE:
                                                                                                                                                                                                                                                                                  NAME:
                                                                                                                                                                                                                                                                                                                                                                            SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                         OPERATING SYSTEM:
                                                                                                                                                                                                                                                                                                                                                                                                           COMPUTER:
                                                                                                                                                                                                                                                                    REGISTRATION NUMBER:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                        COUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ADDRESSEE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   281C-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LVLVQEQPLPEPVLPEQSPAAQDSCLEARKSQPDESCLSALHNSSDLELRAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NFKADEEPVEETPAEPEVPQVETEKVEAQLKEAE - - VLLAKVTDSSLKANAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     GYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKE-----KGILPPSP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              LADDILASRVSVGSSLPELGQELHNKPFSEDHHSHRRLEKNLEAVETLNQLNSKDAAKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSNDGWGNASEHVLGKKDHSEDPNK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DADVKANP -- TGDSAAAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           VTVP-VEILSTDARTHSLDNR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             EGTADSEPATTGDGGHS-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -LLERLNDESTNKEKLVDDLLAFLAPITHPERLGKPNSQIEYTEDEVRIAQLADKYTTSD
                137;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INFORMATION:

    Application US/07920281C
    5739026

                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SHTLTAKKENVAPR----DQEFYDKAYNLLTEAHKALFENKGRNSDFQALDK-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         ---DVHEALLDSLGSH-TP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      r: P.O. Box 7
Falls Church
                               Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                       22040-0747
                                                                                                                                                                                                                                                                                 Murphy
                                                                                                                         amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --ETFTAGSQGSYRD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Virginia
                                                                                                                                        2431 amino acids
                larity 19. Conservative
                                                                                                                                                                                                                                                                                                                                                                           IBM PC compatible
SYSTEM: PC-DOS/MS-DOS
PatentIn Release #1.0,
                                                                                                             linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Birch, Stewart,
D. Box 747
                                                                                                                                                                                                                                                                               Jr.,
                                                                                                                                                                                                                                                                                                                                                                                                                       Floppy disk
                                                                                            protein
                                                                                                                                                                                                                                                                                  Gerald M
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DNA Expression
                             3.3%;
                                                                                                                                                                                                                                                                                                                                              US/07/920,281C
                                                                                                                                                                                                                                                               28,977
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ----SAYFSDNDSEPEKR-
                                                                                                                                                                         2:
                 93;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -GLPPNPVI---
               Score 140; DB Pred. No. 0.23
                                                                                                                                                                                                                                                     828-103P
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kolasch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -QKLVPPDKPADSGYETENLESPEWTLHPAP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Systems
                                                                                                                                                                                                                                                                                                                                                                              Version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ξū
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -VISDAGDGHRGTEVTP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Birch
                               DB 1;
.23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -SQDSPGESEETL - - RLTESDSV
                253;
                                                                                                                                                                                                                                                                                                                                                                              #1.25
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Based
                                             Length 2431;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -SEEVPG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                on
n
                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1179
                 212;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 771
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              -TSPSA
                Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              962
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1127
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  548
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      603
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             489
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           902
                                                                                                                                                                                                                                                                                                                                                                                                                                       QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    γ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Ωy
                                                                                                                                                                                                                                                                                                                                             RESULT 14
US-08-466-277-2
                                                                                                                                                                                                                                                                                                                                                                                                           DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ОŽ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              QΥ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        QΥ
                                                                                                                                                                                                                                                                             Sequence 2, Apr. ; Sequence 2, Apr. ; Patent No. 6190666; Patent No. 6190666: Garof
                                                                                                                                                                                                                                                                                                                                                                                                           2086
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1971
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1921
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    1812
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             1713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          1661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     1607
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1523
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1575
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      2028
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     471
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  414
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              135
                                                                                                                                                                                                                                                                                                                                                                                                                                        629
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           519
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              359
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            300
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       246
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         76
CURRENT APPLICATION DATA: APPLICATION NUMBER:
                                                                                           COMPUTER READABLE FORM:
                                                                                                                                                                                                       CORRE
                                                                                                                                                                                                                      NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       HKALE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             RPVYS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                AYLAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TADVH
                                                                                                                                                                                                                                                                                                                                                                                                          FAKTH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   LGRAG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HWVPDSRPEQPSPQPTPEPSPGPQPAPNLKI-----DSNSSLVSQLVRKVGEGYVFEEKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      OMRELPTMDS -- AVENVECFKRYACSGEYWEEYAKOPIRITTENITTYVTKLKGPKAAAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ---GSDSCLDRATECPAKLRCYPKHHAYHQPTVRSAVPSPFQNTLQNVLAAATKRNCNVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                HWIGKDSLSDKE - - - KVAAQAYTKEKGI -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ERLGKPNSQIEYTEDEVRIA----QLADKYTTSDGY-IFDEHDIISDEGDAYVTPHMGHS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EKLLLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ISR--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ASTTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      RQNSD:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RIARL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DIIED
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             VYLKDAAHADNVRTKEEINRQKQEHSQHREGGTPRNDGAVALARSQGRYTTDDGYIFNAS 194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           KGYST
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         QGYVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSN
                                               \odot
                                                            MEDIUM TYPE:
COMPUTER: IB
                                                                                                                         O O O O D
                                \widetilde{\infty}
                                                                                                         2
                                                                                                                                                                                                                                                                                                               Application US/08466277 190666
                                                                                                                                                                                                                                                 OF INVENTION: DNA Expression
                                                                                                                                          TATE:
                                                                                                                                                                      PONDENCE ADDRESS:
DDRESSEE: Birch, Stewart,
TREET: P.O. Box 747
                                               PERATING
                                                                                                                         DUNTRY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PTGDSAAAIYN--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -YVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RSHQVKSMVVCSSFPLP---KYHVDGVQKVKCEKVLLFDPTVP---SVVSPRKYA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SHGDHYHYYNG-KVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVDGKYY
                               OFTWARE:
                                                                                                                                                                                                                                                                                 ANT: Garoff, Henrik
                                                                                                                                                                                                                                                                                                                                                                                                          NLVPLQEVP-MDRFTVDMKRDVKVTPGTKH
                                                                                                                                                                                                                                                                                                                                                                                                                                       --IPLVRLPYMVEHTVEVKNGNLIIPHKDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            PTVIERFSSPDVAIAACNEYLSRNYPTVASYQITDEYDAYLDMVD-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        LKMQMHPSEANKSRYQS-RKVENMKATVVDRLTSGARLYTGADVGRIPTYAVRYP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AYIFSSDTGS---GHLQQKSVRQ----HNLQCAQLDAVQEEKMYPPK---LDTER 1861
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PEPAGIADLAADVHPEPA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        HSDRSLRGFDLDW-----TTDSSSTASDTMSLPSLQSCDIDSIYEPMAPIVV 1712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NTSRT----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FDGSLYSYFEGTKFNQAAIDMAEILTLWPRLQEANEQICLYALGETM - -
                                                                                                                                                        TY: Falls Church
                                                                                                                                                                                                                     OF SEQUENCES:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  --DNIRSKCPVN--
                                                                                                          22040-0747
                                                                                                                                                                                                                                                                Liljestrom, Peter
                                                                                                                                        Virginia
                                                                                                                                                                     P.O.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -- ENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAP---ITHP
                               PatentIn Release #1.0,
                                          IBM PC compatible SYSTEM: PC-DOS/MS-DOS
                                                            E: Floppy disk
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    -- NWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -DAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRTYR 245
                                                                                                                                                                                                                                  Alphaviruses
 US/08/466,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -- DSDSSTPPRT-VPCLCR-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             --DHV--
                                                                                                                                                                                       Kolasch
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --LPPSP-
                                                                                                                                                                                                                                                   Systems
                                                                                                                                                                                                                                                                                                                                                                                                                                         656
                              Version
                                                                                                                                                                                       Birch
                                                                                                                                                                                                                                                  Based
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DLENPIP---PPRPKRA 1752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                --DADVKAN----
                                                                                                                                                                                                                                                   on
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     -RVKGEKR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 -YAMTAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          573
```

628

1970

413

299

δõ

밁

1128

В

1090

Ş

Ωy

604

g

1049

80

DЬ

1004

В

Š

490

В

ОÃ

442

멍

863

SD

Best

```
В
                                   Qy
                                                                                                  Š
                                                                    В
                                                                                                                                   DЪ
                                                                                                                                                                Ş
                                                                                                                                                                                                 B
                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                밁
                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                            Ş
                                                                                                                                                                                                                                                                                                                                                                                            В
                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Вb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                US-08-466-277-2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Best
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Query Match
       2086
                                                                                                                                   1971
                                                                                                                                                                                                 1921
                                                                                                                                                                                                                                                                1862
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1661
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1523 KGYSTTDGSLYSYFEGTKFNQAAIDMAEILTLWPRLQEANEQICLYALGETM----
                                      629
                                                                                                   611
                                                                                                                                                                                                                                                                                               471
                                                                                                                                                                 574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      195
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  76
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match 3.3%;
Local Similarity 19.7%;
les 137; Conservative
                                                                                                                                                                                                                                                                                                                                                                                 MOLECULE TYPE: protein SEQUENCE DESCRIPTION: SEQ ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     NAME: Murphy Jr., Gerald M.
REGISTRATION NUMBER: 28,977
REFERENCE/DOCKET NUMBER: 828-103P
TELECOMMUNICATION -INFORMATION:
TELEPHONE: 703-241-1300
TELEFAX: 703-241-2848
FAKTHNLVPLQEVP-MDRFTVDMKRDVKVTPGTKH 2119
                                                        QMRELPTMDS--AVFNVECFKRYACSGEYWEEYAKQPIRITTENITTYVTKLKGPKAAAL
                                                                                                                                                                                      RPVYSPTVIERFSSPDVAIAACNEYLSRNYPTVASYQITDEYDAYLDMVD-
                                                                                                                                                                                                                     ERLGKPNSQIEYTEDEVRIA----QLADKYTTSDGY-IFDEHDIISDEGDAYVTPHMGHS
                                                                                                                                                                                                                                                    EKLLLLKMQMHPSEANKSRYQS-RKVENMKATVVDRLTSGARLYTGADVGRIPTYAVRYP
                                                                                                                                                                                                                                                                                               HKALF-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       TELEX: 248345
MATION FOR SEQ ID NO: 2:
SEQUENCE CHARACTERISTICS:
LENGTH: 2431 amino acids
                                                                                                                                                            HWIGKDSLSDKE---KVAAQAYTKEKGI--
                                                                                                                                                                                                                                                                                                                                                 ISR---YVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYNLLTEA 470
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRIOR APPLICATION DATA:
APPLICATION NUMBER: 07/920,281
FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                   LGRAGAYIFSSDTGS---GHLQQKSVRQ----HNLQCAQLDAVQEEKMYPPK---LDTER
                                                                                                                                                                                                                                                                                                                                                                                                                HWVPDSRPEQPSPQPTPEPSPGPQPAPNLKI-----DSNSSLVSQLVRKVGEGYVFEEKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                      TADVHPEPAGIADLAADVHPEPA--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ASTTDHSDRSLRGFDLDW--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                RQNSDNTSRT----NWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            RIARLRSHQVKSMVVCSSFPLP---KYHVDGVQKVKCEKVLLFDPTVP---SVVSPRKYA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    DIIEDTG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        VYLKDAAHADNVRTKEEINRQKQEHSQHREGGTPRNDGAVALARSQGRYTTDDGYIFNAS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QGYVTSHGDHYHYYNG-KVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVDGKYY 134
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               -SQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSN
                                                                                                                      -GSDSCLDRATFCPAKLRCYPKHHAYHQPTVRSAVPSPFQNTLQNVLAAATKRNCNVT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            TOPOLOGY:
                                                                                                 -PTGDSAAAIYN---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: amino acid
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      FILING DATE: 06-Jun-1995
CLASSIFICATION: <Unknown
                               -IPLVRLPYMVEHTVEVKNGNLIIPHKDH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ---DNIRSKCPVN------DSDSSTPPRT-VPCLCR-
                                                                                                                                                                                                                                                                                   -ENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAP---ITHP
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       linear
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -DAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRTYR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        93; Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Score 140; DB
Pred. No. 0.23;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               --TTDSSSTASDTMSLPSLQSCDIDSIYEPMAPIVV
                                                                                                                                                                                                                                                                                                                                                                                                                                                      ---DHV--
                                                                                                                                                           -LPPSP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DB 4;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            253;
                                                                                                                                                                                                                                                                                                                                                                                                                                                 --DLENPIP---PPRPKRA 1752
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Length 2431;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Indels
                                                                                                                                                          -DADVKAN--
                                                                                         -RVKGEKR---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -YAMTAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                         628
                                                                                                                                                                                                                       573
                                                                                                                                                                                                                                                                                      518
                                                                                                                                                                                                                                                                                                                                                                                  1811
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1712
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1606
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               1660
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              245
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           194
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           1574
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        34;
```

```
Db
                                                                        Qy
        QУ
                                                                                                             Db
                                                                                                                                          QУ
                                                                                                                                                                             Db
                                                                                                                                                                                                                                               Бр
                                                                                                                                                                                                                                                                              γΩ
                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                  Дb
                                                                                                                                                                                                                                                                                                                                                QУ
                                                                                                                                                                                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              ; OTHER INFORMATION: Description of Artificial Sequence: OTHER INFORMATION: EYFP-DEVD-MAP4-EBFP construct US-09-513-783A-22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-513-783A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Sequence 2:
Patent No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       NUMBEL
SOFTWARE: FC
SEQ ID NO 22
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          CURRENT APPLICATION NUMBER: US/09/513,783A
CURRENT FILING DATE: 2000-02-25
NUMBER OF SEQ ID NOS: 180
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       FILE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        TITLE OF INV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  TYPE: PRT
        613
                                          574
                                                                         566
                                                                                                                                           522
                                                                                                                                                                            486
                                                                                                                                                                                                              466
                                                                                                                                                                                                                                               451
                                                                                                                                                                                                                                                                                411
                                                                                                                                                                                                                                                                                                                  399
                                                                                                                                                                                                                                                                                                                                                   351
                                                                                                                                                                                                                                                                                                                                                                                                                     294
                                                                                                                                                                                                                                                                                                                                                                                                                                                     299
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          162
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            73
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       REFERENCE:
GDSAAAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDHTYKA 672
                                         DVAPPMI
                                                                                                                                          GKPNSQ
                                                                                                                                                                                                                                                                      EKGISRYVFAKDLPSETVKNLE-----SKLSKQESVSHTLTAKKENVAPRDQEFYDKAYN 465
                                                                                                                                                                                                                                                                                                                                       IPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFE
                                                                                                                                                                                                                                                                                                                                                                         RVDYPDYQSSQNWPEDASFCFQPQQVLDTDQ---AEPFNEH------RDDGLADL
                                                                                                                                                                                                                                                                                                                                                                                                                                           GDEKTGNSESKKKPCLD-TSQVEGIPS-SKP-TLLANGDHGMEGNNTAGSPTD---FLEE
                                                                                                                                                                                                            LLTEAH
                                                                                                                                                                                                                                              ESCVS-
                                                                                                                                                                                                                                                                                                                LFVSSG
                                                                                                                                                                                                                                                                                                                                                                                                                   LYKLP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           GRGNLSNSRTYRRQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQ 293
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DEVDGMADLSLV---DALTEPPPEIEGEIKRDFMAALEAEPYDDIVGETVEKTEFIPLLD 298
                                                                         -VTPHM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               HYQQNTPIGDGPVLLPDNHYLSYQSALSKDPNEKRDHMVLLEFVTAAGITLGMDELYKKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NEVK-GGYVIKVDG------KYYVYLKDAAHADNVRTKEEINRQKQEHS----Q 161
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  VTTFGYGLQCFARYPDHMKQHDFFKSAMPEGYVQERTIFFKDDGNYKTRAEVKFEGDTLV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DIIEDTGDAYIVPHGDHYHYIP---KNELSASELAAAEA---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          HREGGT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         NRIELK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            ITDQGY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           174;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        22,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    3.2%; Score 137.5; DB 4; Similarity 19.8%; Pred. No. 0.19; 74; Conservative 103; Mismatches 337;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          64
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    PatentIn Ver. 2.0
                                EEEIVPGNDTTSPKETETTLPIKMDLAPPEDVLLTKETELAP----AKGMVSLS
                                                                     3HSHWIGKDSLSDKEKVAA-
                                                                                                 -EITKPDVILANVTQPSTESDMFLAQDMELLTGTEAAHANNIILPTEPDESSTK
                                                                                                                                    IEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAY-----
                                                                                                                                                                                                    KALFENKGRNSDFQALDKLLERLND----ESTNKEKLVDDLLAFLAPITHPERL
                                                                                                                                                                                                                                                                                                        : : | | | | | | : :::::|||
PTNASAFTERDNPS----EDSYGMLPCDSF---ASTAVVSQEWSVGAPNSPCS 450
                                                                                                                                                                                                                                                                                                                                                                                                           --LSQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEERIARI 350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ENTION: A System for Cell Based Screening CE: 97-022-L1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Kapur, Ravi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Giuliano, Kenneth A.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Application US/09513783A
16959
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 GIDFKEDGNILGHKLEYNYNSHNVYIMADKQKNGIKVNFKIRHNIEDGSVQLAD 181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ---VTSHGDHYHYYNGKVPYDAIISEELLMKDP-NYKLKDE-----DIV 118
                                                                                                                                                                                                                                        -PEVTIETLQPATELSKAAEVESVKEQLPAK----
                                                                                                                                                                    ----ALETMAEQTTDVVHSPSTDTTPGPDTEAALAKDIE-----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ----ALARSQG-----RYTTDDGY-----IFNAS
                                                               ---QAYTKEKGILPPSPDADVKANPT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Length 1610;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     265;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  -FLS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Gaps
```

194

629

612

573

565

521

Sear	Db	Qy	Db	Qy	DЪ	Qy	Db
ch con	776	781	722	729	668	673	630
Search completed: May 19, 2003, 08:25:07 Job, time : 32.7448 secs	776 ADLHSGTELIVDNSMAPASDLALPLETKVATVPIKDK 812	LTLQIMDNNSIMAEAEKLLALLKGSNPSSVSKEK 814	SA	PVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNN 780	SDPITTLTKDVTLPLEAERPLVTDMTPSLETEMTLGKETAPPTETNLGMAKDMS 721	PNGYTLEDLFATIKYYVEHPDERPHSNDGWGN-ASEHVLGKKD-HSEDPNKNFKADEE 728	: : : : : ::: EIEEALAKNDVRSAE-IPVAQ-ETVVSETEVVLATEVVLP

.

```
Title:
Perfect
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Maximum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Minimum
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Total
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Searched
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Scoring table
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence:
                                                                                                                                                                                                                                                                                                                                                                                  Result
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Post-processing:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         protein
          Pred score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       number
       4163
3304
2832.5
2661.5
1902
1894.5
1798.5
1798.5
1659
1659
1652
1295.5
1186.5
991.5
991.5
975.5
724.5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB
DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 score
                                                                                                                                                                                                                                                                                                                                                              Score
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NO.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                seq
seq
                                                                                                                                                                                                                                                                                                                                                                                                                                                        ່ທ
                                                                                                                                                                                                                                                                                                                                                                                                                                                 No. is the number of results predicted by chance to have a greater than or equal to the score of the result being printed, derived by analysis of the total score distribution.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Published_Applications_AA:*

1: /cgn2_6/ptodata/2/pubpaa/US08_NEW_PUB.pep:*

2: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

3: /cgn2_6/ptodata/2/pubpaa/US06_NEW_PUB.pep:*

4: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

5: /cgn2_6/ptodata/2/pubpaa/US07_NEW_PUB.pep:*

6: /cgn2_6/ptodata/2/pubpaa/US07_PUBCOMB.pep:*

7: /cgn2_6/ptodata/2/pubpaa/US08_PUBCOMB.pep:*

9: /cgn2_6/ptodata/2/pubpaa/US09_NEW_PUB.pep:*

10: /cgn2_6/ptodata/2/pubpaa/US09_PUBCOMB.pep:*

11: /cgn2_6/ptodata/2/pubpaa/US10_NEW_PUB.pep:*

12: /cgn2_6/ptodata/2/pubpaa/US10_PUBCOMB.pep:*

13: /cgn2_6/ptodata/2/pubpaa/US00_PUBCOMB.pep:*

14: /cgn2_6/ptodata/2/pubpaa/US00_PUBCOMB.pep:*
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        of
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       protein search,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                length:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        BLOSUM62
Gapop 10.0
                                                                                                                                                                                                                                                                                                                                                               Query
Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           US-09-645-835A-7
4265
1 MKINKKYLVGSAAALILSVC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   hits satisfying chosen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     мау 19,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Minimum
Maximum
Listing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362588 seqs,
      97.6
66.4
62.4
44.6
42.2
38.9
38.9
38.7
27.8
23.2
23.2
23.2
23.2
23.2
23.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Copyright
                                                                                                                                                                                                                                                                                                                                                              Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  0
20000000000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    2003,
       796
840
838
763
1126
11365
11378
11378
1238
1999
1039
1039
1152
840
793
906
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Match
Match
first
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          GenCore
(c) 1993
                                                                                                                                                                                                                                                                                                                                                                   DB
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Gapext 0
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      using
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       96450795
         07:51:03 ; Search time
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             0%
100%
45 SI
                                                                                                                                                                                                                                                                                                                                0
  US-09-765-272-56
US-09-884-465A-7
US-09-884-465A-8
US-09-884-465A-383
US-09-884-465A-383
US-09-884-465A-380
US-09-884-465A-378
US-09-884-465A-376
US-09-884-465A-377
US-09-884-465A-377
US-09-884-465A-377
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
US-09-884-465A-379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              summaries
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SW
                                                                                                                                                                                                                                                                                                                                                                                                                     SUMMARIES
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           version - 2003
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       residue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        model
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     parameters:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                (without alignments) 335.715 Million cell
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         5.1.4_p5_
Compugen
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             . KLLALLKGSNPSSVSKEKIN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          4578
Ltd.
Sequence 56, Appl sequence 7, Appli sequence 8, Appli Sequence 8, Appli Sequence 383, App sequence 382, App sequence 381, App sequence 376, App sequence 376, App sequence 6, Appli Sequence 182, App sequence 379, App sequence 379, App sequence 15, Appli sequence 369, Appli sequence 373, App
                                                                                                                                                                                                                                                                                                                                                   Description
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Seconds
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                updates
```

															30										
N	\sim	ω	ω	ω	$\boldsymbol{\omega}$	w	636	4	4	4	4	4	4	4	σ	76.	•								
4	4.	4	4.	4	4.	4.	4.	4.	4.	4.	4.	4.	4.	4	14.9	5	5	5	5	5	5	ŗ.	5	5	6
0	9	7	7	7	7	0	0	9	9	7	7	7	0	0	894	~ J	7	0	9	7	0	0	\mathbf{H}	0	0
9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9	9
S-09-884-465A-34	S-09-884-465A-34	S-09-884-465A-29	S-09-884-465A-29	S-09-884-465A-29	S-09-884-465A-30	S-09-884-465A-34	S-09-884-465A-33	S-09-884-465A-34	S-09-884-465A-34	S-09-884-465A-29	S-09-884-465A-29	S-09-884-465A-29	S-09-884-465A-33	S-09-884-465A-33	US-09-884-465A-336	S-09-884-465A-30	S-09-884-465A-30	S-09-884-465A-34	S-09-884-465A-34	S-09-884-465A-25	S-09-884-465A-37	S-09-884-465A-37	S-09-252-088-16	S-09-884-465A-33	-09-884-465A-3
quence 345,	equence 346, Ap	ence 299, Ap	equence 298, Ap	equence 296, Ap	ence 302, Ap	equence 341, Ap	equence 339, Ap	equence 342, Ap	ce 340, Ap	equence 295, Ap	equence 294, Ap	ce 293, Ap	equence 332, Ap	equence 335, Ap	Sequence 336, App	equence 301, Ap	equence 300, Ap	uence 343, Ap	equence 344, Ap	ence 258, Ap	ence 372, Ap	uence 370,	uence 16, Ap	equence 333, Ap	7

ALIGNMENTS

```
RESULT 1
US-09-765-272-56
; Sequence 56, Application
; Patent No. US2002006154:
; GENERAL INFORMATION:
I'ELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
INFORMATION FOR SEQ ID NO: 56:
SEQUENCE CHARACTERISTICS:
LENGTH: 796 amino acids
TYPE: amino acid
STRANDEDNESS: single
TOPOLOGY: linear
MOLECULE TYPE: protei-
SEQUENCE DESC--
                                                                                                                                                                   SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
APPLICATION NUMBER: US/09/765,272
FILING DATE: 22-Jan-2001
CLASSIFICATION: <Unknown>
PRIOR APPLICATION NUMBER: 08/961,083
FILING DATE: <Unknown>
ATTORNEY/AGENT INFORMATION:
NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB340P2
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
FORMATION FOR SECTION NO. 56.
                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococcus pr
NUMBER OF SEQUENCES: 452
CORRESPONDENCE ADDRESS:
ADDRESSEE: Human Genome Science
STREET: 9410 Key West Avenue
CITY: Rockville
STATE: Maryland
COUNTRY: USA
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inc
COMPUTER: HP Vectra 486/33
OPERATING SYSTEM: MSDOS version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         pplication US/09765272
0020061545A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                       SYSTEM: MSDOS version 6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Genome Sciences,
West Avenue
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      3.50 inch,
6/33
                              NO:
                              56:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.4Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    and
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Vaccines
```

ω ``

```
Š
                                                   RESULT 2
US-09-884-465A-
                                                                                        Qy
                                                                                                     DЪ
                                                                                                                 δõ
                                                                                                                             д
                                                                                                                                         δÃ
                                                                                                                                                      멍
                                                                                                                                                                 Qy
                                                                                                                                                                              Ъ
                                                                                                                                                                                         Ş
                                                                                                                                                                                                       рЬ
                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                          δÃ
                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                  δÃ
                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                          Š
                                                                                                                                                                                                                                                                                                       рЬ
                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                               В
                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                                                                                                    γ
                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                         В
                                                                                                                                                                                                                                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                           S
                                                                             g
                                                                                                                                                                                                                                                                                                                                                                                                                                Query Ma
Best Loc
Matches
GENERAL INFORMATION:
APPLICANT: Shire Bio
APPLICANT: Hamel, of
APPLICANT: Brodeur,
APPLICANT: Martin,
APPLICANT: Charlano
                                      Sequence 7, Application US/09884465A Publication No. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                           -09-765-
                                                                                                                                                                                                                              421
                                                                                         801
                                                                                                                                                                                          561
                                                                                                                                                                                                       481
                                                                                                                                                                                                                  501
                                                                                                                                                                                                                                          441
                                                                                                                                                                                                                                                       361
                                                                                                                                                                                                                                                                   381
                                                                                                                                                                                                                                                                               301
                                                                                                                                                                                                                                                                                                       241
                                                                                                                                                                                                                                                                                                                                181
                                                                                                                             661
                                                                                                                                          681
                                                                                                                                                                                                                                                                                           321
                                                                                                                                                                                                                                                                                                                   261
                                                                                                                                                                                                                                                                                                                                            201
                                                                                                                                                                                                                                                                                                                                                        121
                                                                                                                                                                                                                                                                                                                                                                    141
                                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
nes 795; Conser
                                                                                                                                                                                                                                                                                                                                                                                 61
                                                                                                                                                                                                                                                                                                                                                                                                                                              Match
                                                                                                                                                                                                                                                                                                                               LLKGSNPSSVSKEKIN
                                                                                                    EGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIY
                                                                                                                                                                                                     AHADNVRTKEEINRQKQEHSQHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIEDT
                                                                                                                                                                                                                                                                                                                                                                                                                                                           272-56
                                                                             AHADNVRTKEEINRQKQEHSQHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIEDT
  Brodeur, Berna
Martin, Denis
Charland, Nath
                     Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                 97.6%;
ilarity 99.9%;
Conservative
                          Biochem,
               Bernard
                                                                                         816
   thalie
                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                      Score 4163; DB 10;
Pred. No. 8.2e-255;
                                                                                                                                                                                                                                                                                                                                                                                                                                  Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                               7
                                                                                                                                                                                                                                                                                                                                                                                                                                  0;
                                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                       Ŭ
                                                                                                                                                                                                                                                                                                                                                                                             140
                                                                                                                 800
                                                                                                                             720
                                                                                                                                                      660
                                                                                                                                                                  680
                                                                                                                                                                              600
                                                                                                                                                                                                                  560
                                                                                                                                                                                                                              480
                                                                                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                               360
                                                                                                                                                                                                                                                                                           380
                                                                                                                                                                                                                                                                                                                                            260
                                                                                                                                                                                                                                                                                                                                                        180
                                                                                                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                                                                                      90
                                                                                                                                                                                                                                                                                                                                                                                                                                  0
```

```
Db
                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                Db
                                                                            DЪ
                                                                                                       Db
                                                                                                                                                            Db
                                                                                                                                                                                       Db
                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                Qγ
                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                             Db
                                                                                                                                                                                                                                                                                                                                          QУ
                                                                                                                                                                                                                                                                                                                                                         Дd
                                  Qγ
                                                              δõ
                                                                                        δÃ
                                                                                                                    QУ
                                                                                                                                                                          QУ
                                                                                                                                                                                                     Qγ
                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                        Дb
                                                                                                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                Š
                                                                                                                                                                                                                                                                                                                                                                                                                                 SOFTWARE: Pat
SEQ ID NO 7
LENGTH: 840
                                                                                                                                                                                                                                                                                                                                                                                   Query Match
Best Local S
Matches 632
                                                                                                                                                                                                                                                                                                                                                                                                              TYPE: PRT
ORGANISM: S
-09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                           PRIOR APPLICATION NUMBER: US/09/884,
PRIOR FILING DATE: 2001-06-20
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
SOFTWARE: Patentin ...
                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus Antigens FILE REFERENCE: 055190-0044 CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20
                                                661
                                                              657
                                                                            601
                                                                                         597
                                                                                                       541
                                                                                                                                  481
                                                                                                                                                             421
                                                                                                                                                                                        361
                                                                                                                                                                                                                                                                        181
                                                                                                                                                                                                     361
                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                301
                                                                                                                                                                                                                                                                                      181
                                                                                                                                                                                                                                                                                                   121
                                                                                                                                                                                                                                                                                                                21
                                                                                                                                                                                                                                                                                                                             61
                                                                                                                                                                                                                 | | | | | |
QRHVE
                                                                                                                                                                                                                                                                               GRYTT
                                                                                                                                                                                                                                                                                                         VKGGY:
VEAQL
                                               YHNIK
|||||
YHNIK
                                                                                                                                                                                                                         QRHVE
                                                                                                                                                                                                                                                     SRTYR
                                                                                                                                                                                                                                                                                                                                                                      MKINK
                                                                           |: ||
GLTPP
                                                                                                                                                            YIPAK
                                                                                                                                                                          YVFAK
                                                                                                                                                                                      IKGGY
                    GILPP
                                                                                                      LRTYR
                                                                                                                                                                                                                                                                                                                             MKINK
                                                                                                                                                                                                                                                                        GRYTT
                                                                                                                                                                                                                                                                                                                                                                                   1 Si
632;
                                                                                                                                                                                                                                                                                                                                                       KKYLVGSAAALILSVCSYELGLYQARTVKENNRVSYIDGKQATQKTENLTPDEVSK 60
                                                                                                                                                                                                                                                                                                                                                                                   77.5%;
milarity 75.3%;
Conservative 67
                                               SDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSNHW
                                                                                                                                                                                                                                                                       KEAEVLLAKVTDSSLKANATETLAGLRNNLTLQIMDNNSIMAEAEKLLALLKGS
                                                                           RQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPLS
                                                                                                                                                                                                                                                                                                  treptococcus pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                 Score 3304; DB 9;
Pred. No. 1.6e-200;
67; Mismatches 106;
                                                                                                                                                                                                                                                                                                                                                                                                Length 840;
                                                                                                                                                                                                                                                                                                                                                                                   Gaps
                                                                                                                                                                                       420
                                                                                                                                                                                                                                                                                                                                           120
                                                                                                                                                                                                                                                                                                                                                         60
                                                              716
                                                                                                                                               536
                                                                                                                                                             480
                                                                                                                                                                          476
                                                                                                                                                                                                     416
                                                                                                                                                                                                                                                                                     240
                                                                                                                                                                                                                                                                                                                              120
                                                                            660
                                                                                         656
                                                                                                                                                                                                                                                           300
                                                                                                                                                                                                                                                                                                   180
                                                                                                                                                                                                                                                                                                                180
                                                                                                       600
                                                                                                                    596
                                                                                                                                  540
                                                                                                                                                                                                                   360
                                                                                                                                                                                                                                360
                                                                                                                                                                                                                                             300
                                                                                                                                                                                                                                                                        240
```

밁

781

VEEKLREAEDLLGKIQDPIIKSNAKETLTGLKNNLLFGTQDNNTIMAEAEKLLALLKES

839

```
δõ
                                                                                                                   Вb
                                                                                                                                                               밁
                                                                                                                                                                                                                                                        В
                                                                                                                                                                                                                                                                                                      В
                                                                                                                                                                                                                                                                                                                           Qy
                                                                                                                                                                                                                                                                                                                                                   밁
                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                  8
                                                                                                                                                                                                                                                                                                                                                                                                                      Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                              멍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RESULT 3
US-09-884-465A-8
                                                                                                                                        á
                                                                                                                                                                                    Ş
                                                                                                                                                                                                                                 Š
                                                                                                                                                                                                                                                                              Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Š
                        뫄
                                             Qy
                                                                                                                                                                                                            뮹
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Martin, Denis
APPLICANT: Charland, Nathalie
APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus Antigens
FILE REFERENCE: 055190-0044
CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Query Match
Best Local S
Matches 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE: F
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 8, Applicat Publication No. US20 GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ORGANISM: Streptococcus
09-884-465A-8
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          LENGTH: 83
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                 404
                                                                                                                                                                                                                                                                                                                              180
                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                         120
  594
                                                                      464
                                                                                                                                                                                                                                                                                                                                                                                                                      60
                                                                                                                                                                                                                                                                                                                                                                                                  61
                                                                                                                                                                                                                                                                                                                                                                                                                                          MKINKKYLVGSAAALILSVCSYELGLYQARTV-KENNRVSYIDGKQATQKTENLTPDEVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             OF SEQ ID NOS: 384 RE: PatentIn version
                                                                                                              QGRYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLS
|||||||||||||||:::|
QGRYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASELAAAEAYWNG-----
                                                                                                                                                                                                                                                                                                                                                 KREGINAEQIVIKITDQGYVTSHGDHYHYYNGKVPYDAIISEELLMKDPNYKLKDEDIVN
                                                                             WVPDSRPEQPSPQSTPEPSPSLQPAPNPQPAPSNPID--EKLVKEAVRKVGDGYVFEENG
                                                                                                                                                                          WVPDSRPEQPSPQPTPEPS----
                                                                                                                                                                                                                                                                            NSRTYRRQNSDNTSRTNWVPSVSNPGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPL
KEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPH
                    EVRIAQLADKYTTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYT
                                                                  LLDNKGRQVDFEVLDNLLERLKDVSSDKVKLVDDILAFLAPIRHPERLGKPNAQITYTDD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         1 Similarity 64. 554; Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        838
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Application US/09884465A No. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Brodeur, bearing Denis
                                                                                                                                                                                                                                                       -KQGSRPSSSSYNANPVQPRLSENHNLTVTPTYHQ-NQGENISSLLRELYAKPL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        66.4%; Score 2832.5
64.9%; Pred. No. 9.
ive 91; Mismatche
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                pneumonia
                                                                                                                                                                       -PGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFEEKG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         4.5e-)
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        DB 9;
-171;
148;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               838;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                     119
                                                                                                                                       473
                                                                                                                                                                                                                                                                                                                                                                         179
                                                                                                                                                                                                                                                                                                                                                                                                120
                                                                                                                                                                                                                                                                                                                                                                                                                                             60
653
                      583
                                             593
                                                                    523
                                                                                          533
                                                                                                                 463
                                                                                                                                                             403
                                                                                                                                                                                   413
                                                                                                                                                                                                          345
                                                                                                                                                                                                                                 359
                                                                                                                                                                                                                                                                                                                            239
                                                                                                                                                                                                                                                                                                                                                   177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   59
                                                                                                                                                                                                                                                        285
                                                                                                                                                                                                                                                                              299
                                                                                                                                                                                                                                                                                                     232
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         8
```

```
RESULT 4
US-09-765-272-66
Sequence 66, App
QΥ
                        В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Qy
                                               Qy
                                                                                                                     ; MOLECULE
; SEQUENCE
US-09-765-272-66
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Qγ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Db
                                                              Query Macc.
Best Local Simi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Sequence 66, Application Patent No. US200200615
GENERAL INFORMATION:
                                                                                                                                                                                                                  INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  704
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       824
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     764
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           737
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           713
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  584
                                                                                                                                                                                                                                                                                                                                                                                      STREET: 9410 Key West Avenue
CITY: Rockville
STATE: Maryland
COUNTRY: USA
ZIP: 20850
COMPUTER READABLE FORM:
MEDIUM TYPE: Diskette, 3.50 inch, 1.4
COMPUTER: HP Vectra 486/33
OPERATING SYSTEM: MSDOS version 6.2
SOFTWARE: ASCII Text
CURRENT APPLICATION DATA:
                                               20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    NUMBER OF
CORRESPOND
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
TITLE OF IN
                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: 08/961,083 FILING DATE: <Unknown> ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                       SEQUENCE
                                                                                                                                                                                                                                                     REFERENCE/DOCKET TELECOMMUNICATION INFO
                                                                                                                                                                                                                                                                                                                                         PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |||||| | |: :
SLLALLKESQPAPI 837
                     PEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNNLTLQIMDNNSIMAEAE
VTSHGDI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   AEIPQVENSVINAKIADAEALLEKVTDPSIRQNAMETLTGLKSSLLLGTKDNNTISAEVD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                KLLALLKGSNPSSV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  YDHYHN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KDHYHNI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ADQDSKPDEDKEHDEVSEPTHPESDEKENHAGLNPSADNLYKPSTDTEETEEEAEDTTDE
                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/09/765,272 FILING DATE: 22-Jan-2001 CLASSIFICATION: <Unknown>
                                                                                                                               TOPOLOGY: linear ULE TYPE: protein NCE DESCRIPTION:
                                                                                                                                                                                                                                          TEL
                                                                                                                                                                                                                               TEL
                                                                                                                                                                                                                                                                              REG
                                                                                                                                                                    STRANDEDNESS:
                                                                                                                                                                                 TYPE: amino
                                                                                                                                                                                           LENGTH: 763 amino acids
                                                                                                                                                                                                                                                                                                                                         APPLICATION DATA:
HYHYYNGKVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVDGKYYVYLK
                                                                                                                                                                                                                           EFAX:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              oplication US/09765272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                62.4%; Starity 66.8%; P. Conservative 78;
                                                                                                                                                                                                                                          EPHONE:
                                                                                                                                                                                                                                                                            E: Brookes, A. Anders ISTRATION NUMBER: 36,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        NDENCE ADDRESS:
RESSEE: Human (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         KFAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSNDGWGNASEHVLGK-
                                                                                                                                                                                                                                                                                                    ING DATE: <Unknown>
/AGENT INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            INVENTION:
                                                                                                                                                                                                       CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Choi et. al.
INVENTION: Streptococcus
SEQUENCES: 452
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            KDHSE - -
                                                                                                                                                                                                                  (301) 30
Q ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             810
                                                                                                                                                                                                                            (301) 309-85
(01) 309-8512
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Human
                                                                                                                                                                               acid
                                                                                                                                                                                                                                       CKET NUMBER: FINFORMATION: 301) 309-8504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Man Genome
Key West A
                                                                                                                                                                  single
                                                                                                                                SEQ
                                                                                                                                                                                                                    66
                                                                     Score 2661.5; DB 10
Pred. No. 5.2e-160;
B; Mismatches 131;
                                                                                                                                                                                                                                                                            36,373
                                                                                                                                  ID NO:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ne Sciences
Avenue
                                                                                                                                                                                                                                                                    PB340P2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                         <u>'</u>
                                                                                                                                                                                                                                                                                                                                                                                                                 N
                                                                                                                                                                                                                                                                                                                                                                                                                                        4Mb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DPNKNFKADEEPVEETPAE
                                                                                             10;
                                                                       Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                        storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Antigens
                                                                                            Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             and
                                                                                              763;
                                                                      49;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Vaccines
                                                                     Gaps
138
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   763
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           796
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           736
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  643
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    823
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  703
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          712
```

æ ..

```
FILE REFERENCE: 055190-0044

CURRENT APPLICATION NUMBER: US/09/884,465A

CURRENT FILING DATE: 2001-06-20

PRIOR APPLICATION NUMBER: 60/212,683

PRIOR FILING DATE: 2000-06-20

NUMBER OF SEQ ID NOS: 384

SOFTWARE: Patentin version 3.1
                                                                                                               APPLICANT: Brodeur, Bernard
APPLICANT: Martin, Denis
APPLICANT: Charland, Nathalie
APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus
FILE REFERENCE: 055190-0044
                                                                                                                                                                                                                                                                                              DAAHADNVRTKEEINRQKQEHSQHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DTGDAYIVPHGDHYHYIPKNELSASELAAAEAYWNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            DAAHADNIRTKEEIKRQKQERSHNHNS---RADNAVAAARAQGRYTTDDGYIFNASDIIE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VTSHGDHYHYYNGKVPYDAIISEELLMKDPNYQLKDSDIVNEIKGGYVIKVNGKYYVYLK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         DTGDAYIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRTYRRQNSDNTSRTNWV
                                                                                                                                                                                                    Application US/09884465A
o. US20030077293A1
 Organism
                                                                                                                           Antigens
                                                                                                                                                                                                                                                                             PAEPEVPQVETEKVEAQLKEAEVLLAKVTD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -- KQGSRPSSSSSYN
                                                                                                                                                                                                                                                                                                                                      645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     494
                                                                                                                                                                                                                                                                                                                   728
                                                                                                                                                                                                                                                                                                                                                                                                                                                     465
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        405
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           434
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                             614
                                                                                                                                                                                                                                                                                                                                                                                                                525
                                                                                                                                                                                                                                                                                                                                                                                                                                 554
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          258
                                                                                                                     RESULT 6
US-09-884-465A-382
; Sequence 382, Ap
; Publication No.
                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                            DЬ
                                                                                                                                                                                                                                                                             У
                                                                                                                                                                                                                                                                                                dd
                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                                                                                                       QУ
                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                            QУ
                                                                                                                                                                                                                                                                                                                                                                                                                Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                   Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                80
                                                                                                                                                                                  멍
                                                                                                                                                                                                     δÃ
                                                                                                                                                                                                                                        QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                 Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Query Match
Best Local Similarity
Matches 366; Conserv
TITLE OF INVENTIFILE REFERENCE:
CURRENT APPLICAT
CURRENT FILING D.
PRIOR APPLICATIO
PRIOR FILING DAT
                                                                                                                 GENERAL INFOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (557)...(557) OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (558)...(558)
                                                                                              APPLICANT:
                                               APPLICANT: OF INV
                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OTHER INFOR
                                                                   APPLICANT:
                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 LOCATION:
                                                                                                                                                                                  542
                                                                                                                                                                                                                       482
                                                                                                                                                                                                                                         732
                                                                                                                                                                                                                                                            422
                                                                                                                                                                                                                                                                              702
                                                                                                                                                                                                                                                                                                                                      302
                                                                                                                                                                                                                                                                                                                                                        582
                                                                                                                                                                                                                                                                                                                                                                                                                182
                                                                                                                                                                                                                                                                                                                                                                                                                                 462
                                                                                                                                                                                                                                                                                                                                                                                                                                                     122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      402
                                                                                                                                                                                                                                                                                                362
                                                                                                                                                                                                                                                                                                                                                                           242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ION: (1
                                                                                                                                                                                                                                                           FGNAS
                                                                                                                                                                                                                                                                             WGNAS:
                                                                                                                                                                                                                                                                                                                                                                                                               HII:I
                                                                                                                                                                                 MAEAEKLLALLKGSNPSSVSKEKI 815
                                                                                                                                                                                                                                 ETPAE
                                                                                                                                                                                                                                                                                                                                                                                                                                KAYNLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                              KVGEG
                                                                                                                                                                                                                                                                                              SDKEK
                                                                                                                                                                                                                                                                                                                                                                                            GKPNS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        RIARI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                DIDSLLKQLYKLPLSQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEE
                                                                                                                                                                                                                                                                                                                                                                           GKPNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           RIARI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             DIDSL
                                                                                                                                                                                                                       ESPEE
                                                                                                                                                                                                                                                                                                                                                                                                                                                     KVGDG
                                                                                                                                                                                                                                                                                                                                      SEAER.
                                  Charland, Nathalie Ouellet, Catherine IVENTION: Streptococcus A
                                                                                                         Ś
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      (1)..(1)
RMATION:
                                                                                                                                             382
         ICATION NUMBER: US/09/884, NG DATE: 2001-06-20 ATION NUMBER: 60/212,683
                                                                                                                                                                                                                                                                                                                                                                                                              Brodeur,
                                                                                               Hamel,
                                                                                                                MATION:
                                                                                                                                                                                                                      VAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHT 641
                                                                                                                                                                                                                                                                                                                                                                         383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 MATION: Xaa =
                                                                           Martin,
                                                                                                       hire Biochem, Inc.
                                                                                                                                                                                                                                                           DHVQRNKNGQADTNQTEKPSEEKPQTEKPEEETPREEKPQSEKPESPKPTEEPEE
                                                                                                                                                                                                                                                                             EHVLGKKDHSEDPNKNFKAD-
                                                                                                                          Application US/09884465A
5. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           _FEATURE
                                                                                              Josee
  2000-06
                                                                            Denis
                                                                                      Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          44.6%;
64.9%;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        il
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Proline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  64;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Score 1902; DB 9;
Pred. No. 8.5e-112;
4; Mismatches 100;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or
                                                Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 1126;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  34;
                                                                                                                                                                                                                                                                              EEPVE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
                                                                                                                                                                                                                                        791
                                                                                                                                                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              61
                                                                                                                                                                                                                                                                                                421
                                                                                                                                                                                                                                                                                                                  701
                                                                                                                                                                                                                                                                                                                                      361
                                                                                                                                                                                                                                                                                                                                                                           301
                                                                                                                                                                                                                                                                                                                                                                                            581
                                                                                                                                                                                                                                                                                                                                                                                                               241
                                                                                                                                                                                                                                                                                                                                                                                                                                 521
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ω
•••
```

δõ

PVEET - -

706

US-09-884-465A-383

Sequence 383, Publication N

GENERAL INFORMATION:

Shire Biochem, Hamel, Josee

Inc

No.

APPLICANT: APPLICANT:

EQ ID NO 383 LENGTH: 1126

TYPE: PRT

FEATURE:

INFORMATION:

ORGANISM: Artificial

Sequence

RESULT

В

646

80

675

g

8

615

Qy

밁

В

Š

Db

406

Š

435

Db

20

밁

δÃ

B

227

δÃ

Db

γQ

В

δõ

DЬ

```
Ş
                                                                                                                                                                                                                                                                    80
                                                                                                                                                                                                                                                                                                    Š
                                                                                                                                                                                                                                                                                                                                   Š
                                                                                                                                                                                                                                                                                                                                                    멍
                                                                                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                     Ş
                                                                                                                                                     멍
                                                                                                                                                                                     В
                                                                                                                                                                                                                     Db
                                                                                                                                                                                                                                                     В
                                                                                                                                                                                                                                                                                    D.
                                                                                                                                                                                                                                                                                                                    밁
                                                                                                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                                                                                                  δã
                                                                                                                                                                                                                                                                                                                                                                                                                                                 ; NAME/KEY: MISC_FEATURE
; LOCATION: (558)..(558)
; OTHER INFORMATION: Xaa
US-09-884-465A-382
                                                       RESULT 7
US-09-884-465A-380
                                                                                                     δÃ
                                                                                                                       а
                                                                                                                                                                    δÃ
                                                                                                                                                                                                    δõ
                                                                                                                                                                                                                                                                                                                                                                                                                 Query Ma
Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   SOFTWARE: PatentIn version 3
SEQ ID NO 382
LENGTH: 1365
TYPE: PRT
                               Sequence 380, Applia Publication No. US2 GENERAL INFORMATION
APPLICANT:
APPLICANT:
APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               NAME/KEY: MISC_FEATURE LOCATION: (1)..(1)
OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (557)..(557)
OTHER INFORMATION: Xaa =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               OTHER INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        EATURE:
                                                                                                      792
                                                                                                                     482
                                                                                                                                                      422
                                                                                                                                                                     702
                                                                                                                                                                                                                     302
                                                                                                                                                                                                                                                                                    182
                                                                                                                                                                                                                                                                                                                    122
                                                                                                                                                                                                                                                                                                                                    402
                                                                                                                                                                                                                                                                                                                                                                   346
                                                                                                                                                                                                                                                                                                                                                                                                   286
                                                                                                                                                                                     362
                                                                                                                                                                                                     642
                                                                                                                                                                                                                                                    242
                                                                                                                                                                                                                                                                                                                                                                                                                  Local Similarity
nes 367; Conserv
                                                                                                                                                                                                                                                                                                                                                    62
                                                                                                                                                                                                                                                                                                                                                                                                                                   Match
                                                                                                                                                                                                                                                                                                                                                                                    N
                                                                                                                                                                                                                                                  MAEAEKLLALLKGS--
                                                                                                                                                                                    WGNASEHVLGKKDHSEDPNKNFKAD-
                                                                                       MAEAEKLLALLKESKXXNMQPSQLS
                                                                                                                    FGNASDHVQRNKNGQADTNQTEKPSEEKPQTEKPEEETPREEKPQSEKPESPKPTEEPEE
                                                                                                                                                                                                                            SDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHT
                                                                                                                                     ETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNNLTLQIMDNNSI
                        Shire
Brodeur,
Martin,
                Hamel, Josee
                                       Application US/09884465A
o. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                 44.48; ilarity 65.08; Conservative 6
                      Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Unknown Organism
 Denis
      Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                           ı
                                                                                                      -NPSSVS
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                         Proline
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                  61;
                                                                                                                                                                                                                                                                                                                                                                                                                         Score
Pred.
                                                                                                      811
                                                                                       566
                                                                                                                                                                                                                                                                                                                                                                                                                                                          or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or
                                                                                                                                                                                                                                                                                                                                                                                                                 ore 1894.5; DB 9 ed. No. 3.3e-111; Mismatches 98;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          or
                                                                                                                                                                                                                                                                                                                                                                                                                                                         nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                9
                                                                                                                                                                                                                                                                                                                                                                                                                  Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                Length
                                                                                                                                                                                                                                                                                                                                                                                                                                  1365
                                                                                                                                                                                                                                                                                                                                                                                                                 39;
                                                                                                                                                                                                                                                                                                                                                                                                                 Gaps
                                                                                                                                                                                                                                                                                                                                                                                   61
                                                                                                                                                                                                                                                                                                                                                                   401
                                                                                                                                                                                                                                                                                                                   181
                                                                                                                                                                                                                                                                                                                                   461
                                                                                                                                                                                                                                                                                                                                                                                                  345
                                                                                                                                     791
                                                                                                                                                                    731
                                                                                                                                                                                    421
                                                                                                                                                                                                   701
                                                                                                                                                                                                                                   641
                                                                                                                                                                                                                                                                                    241
                                                                                                                                                                                                                                                                                                  521
                                                                                                                                                                                                                                                                                                                                                   121
                                                                                                                      541
                                                                                                                                                    481
                                                                                                                                                                                                                    361
                                                                                                                                                                                                                                                   301
                                                                                                                                                                                                                                                                   581
                                                                                                                                                                                                                                                                                                                                                                                                                  4;
```

```
Charland, Nathalie

TITLE OF INVENTION: Streptococcus Antigens

FILE REFERENCE: 055190-0044

CURRENT APPLICATION NUMBER: US/09/884,465A

CURRENT FILING DATE: 2001-06-20

PRIOR APPLICATION NUMBER: 60/212,683

PRIOR FILING DATE: 2000-06-20

NUMBER OF SEQ ID NOS: 384

SOFTWARE: Patentin version 3.1

SEQ ID NO 380

LENGTH: 1139

TYPE: PRT
ORGANISM: Ar+'

FEATURE:
OTPT
                                                                                          QУ
                                                                                                                                                                  QУ
                                                                                                                                                                                                                        Dр
                                                                                                                                                                                                                                                                             QУ
                                                                                                                                                                                                                                                                                                  B
                                                                                                                                                                                                                                                                                                                  Qy
                                                                                                                                                                                                                                                                                                                                                      Qγ
                                                                                                                                                                                                                                                                                                                                                                                                              SD
                                      Дb
                                                                         Дb
                                                                                                                                                DЬ
                                                                                                                                                                                    В
                                                                                                                                                                                                                                                                                                                                      da
                  QУ
                                                      QУ
                                                                                                            рр
                                                                                                                              QУ
                                                                                                                                                                                                     QУ
                                                                                                                                                                                                                                         QУ
                                                                                                                                                                                                                                                             Вp
                                                                                                                                                                                                                                                                                                                                                                                                         NAME/KEY: MISC_FEATURE
LOCATION: (1)..(1)
OTHER INFORMATION: Xaa =
NAME/KEY: MISC_FEATURE
LOCATION: (570)..(570)
OTHER INFORMATION: Xaa =
NAME/KEY: MISC_FEATURE
LOCATION: (571)..(571)
OTHER INFORMATION: Xaa =
US-09-884-465A-380
                                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                                  Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   FEATURE:
OTHER INFORMA
NAME/KEY: MIS
LOCATION: (1)
  541
                   783
                                      481
                                                      723
                                                                         421
                                                                                           700
                                                                                                            361
                                                                                                                                                301
                                                                                                                                                                  580
                                                                                                                                                                                    241
                                                                                                                                                                                                      520
                                                                                                                                                                                                                         181
                                                                                                                                                                                                                                          460
                                                                                                                                                                                                                                                             121
                                                                                                                                                                                                                                                                              400
                                                                                                                                                                                                                                                                                                                  346
                                                                                                                                                                                                                                                                                                                                                        286
                                                                                                                                                                                                                                                                                                                                                                        Local Sin
                                                                                                                                                                                                                                                                                                  63
                                                                                                                                                                                                                                                                                                                                      W
                                                                                                                                                                                                                                                                     VRKVGE(
                                                                                                            YTVEVKI
                                                                                                                      HTVEVKI
                                                                                                                                                                                                                        |:||:
                                                                                                                                                                                                                                                                                                          RIARII
                                                                        : | : | | |
NGFGNA
                                                                                                                                                         SLSDKEI
                                                                                                                                                                                                                                                                                                                                                      DIDSLL
                                                                                          DGWGNA
                                                                                                                                                 SLSEAE
                                                                                                                                                                                                      RLGKPN
                                                                                                                                                                                                                                          YDKAYN
                                                                                                                                                                                                                                                             VRKVGD
                                                                                                                                                                                                                                                                                                  RIARII
                                                                                                                                                                                                                                                                                                                                     NISSLL
  LGTKDN
                  LQIMDN
                                      TEETEE
                                                       FKADEE
                                                                                                                                                                                    RLGKPN
                                                                                                                                                                                                                                                                                                                                                                                  Sim
                                                                                                                                                                                                                                                            NTISAEVDSLLALLKESQPAPI
          NSIMAEAEKLLALLKGSNPSSV
                                     SDHVRKNKADQDSKPDEDKEHDEVSEPTHPESDEKENHAGLNPSADNLYKPSTD
                                                                                                           RAAAQAYAKEKGLTPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQ
                                                                                                                                                         RELYAKPLSERHVESDGLIFDPAQITSRTARGVAVPHGNHYHFIPYEQMSELEK
                                                                                                                                                                                                                                                                                                                                             KQLYKLPLSQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEE
                                                                                                                                                                                                                                                                                                                                                                        42.2%; Score 1798.5; DB 9; ilarity 60.7%; Pred. No. 3e-105; Conservative 72; Mismatches 106;
                                                      PVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNNLT
                                                                                           SEHVLGK-
                                                                                                                                                                                                                                          LLTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPE
                                                                                                                                                                                                                                                                                                                                                                                                                        ļį
                                                                                                                                                                                                                                                                                                                                                                                                                                                Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                      Proline
                                                                                           -KDHSE-
                                                                                                                                                                                                                                                                                                                                                                                                                     or
                                                                                                                                                                                                                                                                                                                                                                                                                                                  or
                   810
  568
                                                                                                                                                                                                                                                                                                                                                                                                                                                 nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            or
                                                                                                                                                                                                                                                                                                                                                                                                                      nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                            nothing
                                                                                                                                                                                                                                                                                                                                                                         Indels
                                                                                                                                                                                                                                                                                                                                                                                           Length
                                                                                                                                                                                                                                                                                                                                                                                            1139;
                                                                                                                                                                                                                                                                                                                                                                         45;
                                                                                           -DPNKN
                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                              459
                                                                                                                                                                                                                                                                                                                                     62
                                                                                                                                                                  639
                                      540
                                                       782
                                                                         480
                                                                                          722
                                                                                                            420
                                                                                                                                                360
                                                                                                                                                                                                      579
                                                                                                                                                                                                                                          519
                                                                                                                                                                                                                                                             180
                                                                                                                                                                                                                                                                                                 120
                                                                                                                                                                                                                                                                                                                                                       345
                                                                                                                               699
                                                                                                                                                                                    300
```

4;

RESULT

 α

```
; NAME/KEY: MISC_FEATURE
; LOCATION: (570)..(570)
; OTHER INFORMATION: Xaa =
; NAME/KEY: MISC_FEATURE
; LOCATION: (571)..(571)
; OTHER INFORMATION: Xaa =
US-09-884-465A-378
                                                                                                                                                 Ş
                                                                                S
O
                                                                                                                    밁
                                                                                                                                                                                    Вp
                                                                                                                                                                                                                  200
                                                                                                                                                                                                                                                     밁
                                                                                                                                                                                                                                                                                   Ş
                                                                                                                                                                                                                                                                                                                     gg
                                                                                                                                                                                                                                                                                                                                                  Ş
                                                                                                                                                                                                                                                                                                                                                                                      9
                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                   DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  δõ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            US-09-884-465A-378; Sequence 378; Ap
                                                   В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT: Ouellet, Catherine
TITLE OF INVENTION: Streptococcus Antigens
FILE REFERENCE: 055190-0044
CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Best Loc
Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Sequence 37 Publication
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT: Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               FEATURE:
OTHER IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LENGTH: 1:
TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              NAME/KEY: MISC_FEATURE LOCATION: (1)..(1)
OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             ORGANISM: Artificial Sequence
                 723
                                                                                                                                                    640
                                                                                                                                                                                    301
                                                                                                                                                                                                                    580
                                                                                                                                                                                                                                                                                     520
                                                                                                                                                                                                                                                                                                                     181
                                                                                                                                                                                                                                                                                                                                                    460
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     346
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  286
                                                                                                                                                                                                                                                                                                                                                                                                                                                    63
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Match 42.2%; Score 1798.5; DB 9; Local Similarity 60.7%; Pred. No. 3.9e-105; les 345; Conservative 72; Mismatches 106;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ω
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                INFORMATION:
                                                                                                                                 FKADEEPVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKANATETLAGLRNNLT
                                                                                  DGWGNASEHVLGK-
                                                                                                                                                                                                                  SLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVE
                                                                                                                                                                                                                                                                                 RLGKPNSQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKD
                                                                                                                                                                                                                                                                                                                                                                                                                                                  RIARIIPLRYRSNHWVPDSRPEQPSPQSTPEPSPSLQPAPNPQPAPSNPID--EKLVKEA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   NISSLLRELYAKPLSERHVESDGLIFDPAQITSRTARGVAVPHGNHYHFIPYEQMSELEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SLSEAERAAAQAYAKEKGLTPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQ
                                                                                                                                                                                                                                                    RLGKPNAQITYTDDEIQVAKLAGKYTTEDGYIFDPRDITSDEGDAYVTPHMTHSHWIKKD
                                                                                                                                                                                                                                                                                                                                                  YDKAYNLLTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPE
                                                                                                                                                                                                                                                                                                                                                                                   VRKVGDGYVFEENGVSRYIPAKDLSAETAAGIDSKLAKQESLSHKLGAKKTDLPSSDREF
                                                                                                                                                                                                                                                                                                                                                                                                                   VRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEF
                                                                                                                                                                                                                                                                                                                                                                                                                                                                     RIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPS--
                                                 NGFGNASDHVRKNKADQDSKPDEDKEHDEVSEPTHPESDEKENHAGLNPSADNLYKPSTD
                                                                                                                    YTVEVKNGSLIIPHYDHYHNIKFEWFDEGLYEAPKGYSLEDLLATVKYYVEHPNERPHSD
                                                                                                                                                                                                                                                                                                                    YNKAYDLLARIHQDLLDNKGRQVDFEVLDNLLERLKDVSSDKVKLVDDILAFLAPIRHPE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                1378
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PatentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Martin, Dem
Charland, Nathalie
Charlet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              N
O
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Brodeur, benis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Application US/09884465A o. US20030077293A1
---
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Unknown Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Bernard
 <u>:</u>
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Inc
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Proline
                                                                                    KDHSE-
 or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   -- PGPQPAPNLKIDSNSSLVSQL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Length
 =
=
:::
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  1378;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  45;
                                                                                  -DPNKN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Gaps
```

2

180

519

240

62

4;

399

699

360

639

```
Db
                                                                QУ
                                                                                             В
                                                                                                                   Qy
                                                                                                                                                Db
                                                                                                                                                                       Ş
                                                                                                                                                                                                   밁
                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                      Db
                                                                                                                                                                                                                                                                             Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        20
                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                 γQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         RESULT 9
US-09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               dd
                                                                                                                                                                                                                                                                                                                                                                                                            ; OTHER INFOR US-09-884-465A-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus Antigens FILE REFERENCE: 055190-0044 CURRENT APPLICATION NUMBER: US/09/884,465A CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20 NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         SEQ ID NO
                                                                                                                                                                                                                                                                                                                                                          Matches
                                                                                                                                                                                                                                                                                                                                                                     Query Match
Best Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GENERAL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                           NAME/KEY: MISC_FEATURE LOCATION: (1)..(1)
OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (430)..(430)
OTHER INFORMATION: Xaa =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       APPLICANT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                       NAME/KEY: MI
LOCATION: (4
OTHER INFORM
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ORGANISM: Artificial FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           OTHER INFORMATION: Unknown
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            LENGTH: 1238
                                                                                                                                                                         462
               642
                                         302
                                                                  582
                                                                                           242
                                                                                                                      522
                                                                                                                                                182
                                                                                                                                                                                                   122
                                                                                                                                                                                                                            402
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               541
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                481
                                                                                                                                                                                                                                                                               346
                                                                                                                                                                                                                                                                                                                                  286
                                                                                                                                                                                                                                                     62
                                                                                                                                                                                                                                                                                                        \sim
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT
                                                                                                                                                                       KAYNL
                                                                                                                                                                                                                                                                             RIARI
                                                                                                                                                                                                                                                                                                      INFOR
VEVKNGNLIIPHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSNDG
                                                                                        GKPNAQITYTDDEIQVAKLAGKYTTEDGYIFDPRDITSDEGDAYVTPHMTHSHWIKKDSL
                                                                                                                  GKPNSQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KVGDGYVFEENGVSRYIPAKNLSAETAAGIDSKLAKQESLSHKLGAKKTDLPSSDREFYN
                                                                SDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHT
                                                                                                                                               KAYDL
                                                                                                                                                                                                                          KVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYD
                                                                                                                                                                                                                                                     RIARI
                                        SEAERAAAQAYAKEKGLTPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQYT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TEETE
                                                                                                                                                                                                                                                                                                                                                          314;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         : Pa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              81,
                                                                                                                                                                                                                                                                                                                                                                     Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Martand, Natural
Charland, Natural
Charlet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Brodeur, burnis
                                                                                                                                                                                                                                                                                                                                                                                                                       MISC_FEATURE (431)..(431) RMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            381
                                                                                                                                             LARIHQDLLDNKGRQVDFEALDNLLERLKDVSSDKVKLVDDILAFLAPIRHPERL
                                                                                                                                                                                                                                                                 IPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLK-IDSN---SSLVSQLVR 401
                                                                                                                                                                                                                                                    IPLRYRSNHWVPDSRPEEPSPQPTPEPSPSPQPAPNPQPAPSNPIDEKLVKEAVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Hamel,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     MATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                EEAEDTTDEAEIPQVENSVINAKIADAEALLEKVTDPSIRQNAMETLTGLKSSLL
                                                                                                                                                                      LTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      tentIn version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Application US/09884465
. US20030077293A1
                                                                                                                                                                                                                                                                                                                                                         39.1%; ilarity 66.5%; Conservative 5
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inc
                                                                                                                                                                                                                                                                                                                                                                                                                          Proline
                                                                                                                                                                                                                                                                                                                                                                                                                                                              Glycine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Organism
                                                                                                                                                                                                                                                                                                                                                          58;
                                                                                                                                                                                                                                                                                                                                                                     Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                                                                                                               or
                                                                                                                                                                                                                                                                                                                                                                                                                          or
                                                                                                                                                                                                                                                                                                                                                          Mismatches
                                                                                                                                                                                                                                                                                                                                                                     1668; DB 9;
No. 5.8e-97;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    or
                                                                                                                                                                                                                                                                                                                                                                                                                          nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                               nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    nothing
                                                                                                                                                                                                                                                                                                                                                          96;
                                                                                                                                                                                                                                                                                                                                                                                 Length 1238;
                                                                                                                                                                                                                                                                                                                                                          Indels
                                                                                                                                                                                                                                                                                                                                                          4.
                                                                                                                                                                                                                                                                                                                                                         Gaps
                                                                                                                                                                                                                                                                                                       61
                                                                 641
                                                                                                                                                                                                                            461
                                                                                                                                                                                                                                                    121
                                                                                                                                                                        521
                                                                                                                                                                                                   181
                                                                                                                    581
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 540
                                         361
                                                                                            301
                                                                                                                                               241
```

```
RESULT 10
US-09-884-465A-376
Ceruence 376, App
                                          g
                                                              Ş
                                                                                      Вb
                                                                                                           Q
                                                                                                                                  DЬ
                                                                                                                                                        Š
                                                                                                                                                                               8
                                                                                                                                                                                                    Ş
                                                                                                                                                                                                                           Вр
                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                        B
                                                                                                                                                                                                                                                                                            Š
                                                                                                                                                                                                                                                                                                                                                              US-09-884-465A-376
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           д
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       qq
                                                                                                                                                                                                                                                                                                                   Matches
                                                                                                                                                                                                                                                                                                                          Query Match
Best Local Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Publication No.
                                                                                                                                                                                                                                                                                                                                                                    NAME/KEY: MISC_FEATURE
LOCATION: (430)..(430)
OTHER INFORMATION: Xaa =
NAME/KEY: MISC_FEATURE
LOCATION: (431)..(431)
OTHER INFORMATION: Xaa =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   CURRENT APPLICATION NUMBER: US/09/884, CURRENT FILING DATE: 2001-06-20 PRIOR APPLICATION NUMBER: 60/212,683 PRIOR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus Antigens FILE REFERENCE: 055190-0044
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          NUMBER OF SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             FEATURE:
OTHER IN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           ENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                          NAME/KEY: MISC_FEATURE LOCATION: (1)..(1) OTHER INFORMATION: Xaa
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Artificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 TYPE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH:
                   642
                                         302
                                                                                     242
                                                                                                            522
                                                                                                                                  182
                                                                                                                                                        462
                                                                                                                                                                              122
                                                                                                                                                                                                     402
                                                                                                                                                                                                                                                 346
                                                                                                                                                                                                                                                                                             286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ID NO 376
                                                                                                                                                                                                                           62
VEVKNGNLIIPHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSNDG
                                                                             SDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHT
                                                                                                                           KAYDLLARIHQDLLDNKGRQVDFEALDNLLERLKDVSSDKVKLVDDILAFLAPIRHPERL
                                                                                                                                                                     RIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQPAPNLK-IDSN---SSLVSQLVR 401
                                                                                                                                                                                                                                                               KAYNLLTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERL
                                                                                                                                                                                             KVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYD
                                                                                                                                                                                                                  RIARIIPLRYRSNHWVPDSRPEEPSPQPTPEPSPSPQPAPNPQPAPSNPIDEKLVKEAVR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        WGNASEHVLGKKDHSEDPNKNFKADEEPVEETPAEPEVPQVETEKVEAQLKE 753
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FGNASDHVXXNMQPSQLSYSSTASDNNTQSVAKGSTSKPANKSENLQSLLKE
                                                                                                                                                                                                                                                                                                                  326;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               VEVKNGSLIIPHYDHYHNIKFEWFDEGLYEAPKGYTLEDLLATVKYYVEHPNERPHSDNG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               PatentIn
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Charland, Nature
Charlet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Brodeur, being Brodeur, being Brodeur, being Brodeur
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Application
                                                                                                                                                                                                                                                                                                               38.9%; llarity 61.9%; Conservative 6
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ID NOS:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      US20030077293A1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               version
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Unknown Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          384
                                                                                                                                                                                                                                                                                                                                                                         ŧ,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               US/09884465A
                                                                                                                                                                                                                                                                                                                                                                       Proline
                                                                                                                                                                                                                                                                                                                                                                                                                                          Methionine
                                                                                                                                                                                                                                                                                                                                                                                                         Glycine or
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Inc.
                                                                                                                                                                                                                                                                                                                63;
                                                                                                                                                                                                                                                                                                                         Score
Pred.
                                                                                                                                                                                                                                                                                                                                                                        or
Or
                                                                                                                                                                                                                                                                                                                Mismatches
                                                                                                                                                                                                                                                                                                                         No.
                                                                                                                                                                                                                                                                                                                                  1659;
                                                                                                                                                                                                                                                                                                                                                                                                                                          or
C
                                                                                                                                                                                                                                                                                                                                                                        nothing
                                                                                                                                                                                                                                                                                                                                                                                                        nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                         nothing
                                                                                                                                                                                                                                                                                                             9; DB 9;
1.6e-96;
ches 98;
                                                                                                                                                                                                                                                                                                                                  Length 999;
                                                                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    473
                                                                                                                                                                                                                                                                                                             40;
                                                                                                                                                                                                                                                                                                            Gaps
             701
                                                          641
                                    361
                                                                                                     581
                                                                                                                                                  521
                                                                                                                                                                         181
                                                                                                                                                                                                                     121
                                                                               301
                                                                                                                            241
                                                                                                                                                                                               461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
                                                                                                                                                                                                                                                                                                             ,,
80
          QУ
                                 DЪ
                                                       QУ
                                                                              Дb
                                                                                                  QУ
                                                                                                                                              QУ
                                                                                                                          DЪ
                                                                                                                                                                      Дb
                                                                                                                                                                                           QY
                                                                                                                                                                                                                  рЬ
                                                                                                                                                                                                                                        V
```

```
RESULT 11
US-09-884-465A-37
US-09-884-465A-37
                                                                                                                                                                                                                                                                                                          ; OTHER INFORMA US-09-884-465A-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 뮍
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                          Query Match
Best Local
                                                                                                                                                                                                                                                                Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               SEQ
                                                                                                                                                                                                                                                                                                         NAME/KEY: MISC_FEATURE
LOCATION: (1)..(1)
OTHER INFORMATION: Xaa =
NAME/KEY: MISC_FEATURE
LOCATION: (570)..(570)
OTHER INFORMATION: Xaa =
NAME/KEY: MISC_FEATURE
LOCATION: (571)..(571)
OTHER INFORMATION: Xaa =
COTHER INFORMATION: Xaa =
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 377, Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT APPLICATION NUMBER: US/09/884,465A
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           FILE REFERENCI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  LENGTH:
                                                                                                                                                                                                                                                                                                                                                                                                                                           TYPE: PRT ORGANISM: Artificial
                                                                                                                                                                                                                                                                                                                                                                                                                        OTHER INFORMA
                                                                                                                                                                                                                                                                                                                                                                                                                                  FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                      ID NO 377
                 582
                                       812
                                                                                  752
                                                                                                       462
                                                                                                                               692
                                                                                                                                                                                                                    572
                                                                                                                                                   402
                                                                                                                                                                          632
                                                                                                                                                                                                 346
                                                                                                                                                                                                                                           286
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               469
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       362
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       OF
SDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGEKRIPLVRLPYMVEHT
                                KAYDLLA
                                                                                                  KAYNLLTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERL
                                                                                                                                                                   KVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYD
                                                                                                                            KVGDGYV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               LKEAEVLLAKVTDSSLKANATETLAGLRNNLTLQIMDNNSIMAEAEK 797
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              AKEMKDLDKKI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 VEVKNGSLIIPHYDHYHNIKFEWFDEGLYEAPKGYTLEDLLATVKYYVEHPNERPHSDNG
                                                                                                                                                                                                                                                                al Simi
307; (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             WGNASEHVLGKKDHSEDPNKNFKADEEPVEETPA-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          FGNASDHV - - XXDLTEE -
                                                                                                                                                                                                                                                                                                                                                                                                                                                                    999
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Shi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Brodeur, Berna
Martin, Denis
Charland, Nath
Ouellet, Cathe
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Martand, Naction
Charland, Naction
Catherine
Catherine
                                                                            Application US/09884465A
. US20030077293A1
                                                                                                                                                                                                                                                               Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      rellet, Catherine NTION: Streptococcus
                                                                                                                                                                                                                                                                          larity
                                                                                                                                                                                                                                                                                                                                                                                                                        TION:
                                                                                                                                                                                                                                                                                                                                                                                                           ION: Unknown
_FEATURE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Biochem,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                           $equence
                                                                                                                                                                                                                                                                          38.7%;
71.7%;
                                                                                                                                                                                                                                                                                                                     11
                                                                                                                                                                                                                                                                                                                    Proine
                                                                                                                                                                                                                                                                                                                                                    Glycine or
                                                                                                                                                                                                                                                                                                                                                                                      Methionine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -QIKAAQKHLEEVKTSHNGLDSLSSHEQDYP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            EEKIAGIMKQYGVK--
                                                                                                                                                                                                                                                                                                                                                                                                                    Organism
                                                                                                                                                                                                                                                              50;
                                                                                                                                                                                                                                                                       Score 1652;
Pred. No. 4
                                                                                                                                                                                                                                                                                                                    Or
                                                                                                                                                                                                                                                             ed. No. 4.40
Mismatches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Antigens
                                                                                                                                                                                                                                                                                                                   nothing
                                                                                                                                                                                                                                                                                                                                                                                     or nothing
                                                                                                                                                                                                                                                                                                                                                    nothing
                                                                                                                                                                                                                                                           2; DB 9;
4.4e-96;
ches 67;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            -RESIVVNKEK
                                                                                                                                                                                                                                                                                 Length 999;
                                                                                                                                                                                                                                                              Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -EPEVPQVETEKVEAQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           503
                                                                                                                                                                                                                                                            4;
                                                                                                                                                                                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       GZ
                                                       581
                                                                             811
                                                                                                                         751
                                                                                                                                                                                           401
                                                                                                   521
                                                                                                                                                                      691
                                                                                                                                               461
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       468
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            750
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 421
```

	Q 539	QY 480 RNSDFQALDKLLERLNDESTNKEKLVDDLLAFLAPITHPERLGKPNSQIEYTEDEVRIAQ	
	Ġ 397	Db 347PNEVVSSLGSLSSNPSSLTTSKELSSASDGYIFNPK-DIVEETATAYIVRHG	
	G 479	SETVKNLESKLSKQESVSHTLTAKKENVAPRDQEFYDKAYN	
	- 346	Db 334ISGTGSTVSTNAK	
	F 419	QY 360 WVPDSRPEQPSPQPTPEPSPGPQPAPNLKIDSNSSLVSQLVRKVGEGYVFEEKGISRYVI	
	H 359 - 333	QY 300 SQRHVESDGLVFDPAQITSRTARGVAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSNH 	
		: : :: AKGSTSKPANK	
		177 QGRYTTNDGYVENPAULLEUTGNALLVPHGGHIHILENSULSASELE	
	s 239	180 QGRYTTDDGYIFNASDIIEDTGDAYIVPHGDHYHYIPKNELSASE	
		円 - (
	N 120	61 QKEGIQAEQIVIKITDQGYVTSHGDHYHYYNGKVPYDALFSEELLM	
		EGINAEQIVIKITDQGYVTSHGDHYHYYNGKVPYDAIISEELLMK	
	s 59	QY 1 MKINKKYL-VGSAAALILSVCSYELGLYQARTVKENNRVSYIDGKQATQKTENLTPDEVS : : : : : :::: : :: :	
20;	Gaps	Query Match 30.4%; Score 1295.5; DB 9; Length 1039; Best Local Similarity 41.5%; Pred. No. 1.5e-73; Matches 309; Conservative 99; Mismatches 185; Indels 151; G	
		SEQ ID NO 6 LENGTH: 1039 TYPE: PRT ORGANISM: Streptococcus pneu	
		ENT APPLICATION NUMBE ENT FILING DATE: 200 R APPLICATION NUMBER: R FILING DATE: 2000-0 ER OF SEQ ID NOS: 384 WARE: Patentin version	
		APPLICANT: Ouellet, Catheri TITLE OF INVENTION: Streptoc	
		APPLICANT: Martin, Denis APPLICANT: Charland, Nathali	
		APPLICANT: SHITE BIOCHE APPLICANT: Brodeur, Be	
		Publication No. US20030077293A GENERAL INFORMATION:	
		ESULT 12 S-09-884-465A-6 Sequence 6, Application	
		: : 	н
		GNASE	0
	991		
	701	642 VEVKNGNI.TTPHKDHYHNTKFAWFDDHTYKAPNGYTLEDLFATIKY	_ r
	931	Db 872 SEAERAAAQAYAKEKGLTPPSTDHQDSGNTEAKGAEAIYNRVKAAKKVPLDRMPYNLQYT	

```
; MOLECULE
; SEQUENCE
US-09-765-272-182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               RESULT 13
US-09-765-272-182
; Sequence 182, Application US/09765272
; Sequence 182, Application US/09765272
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          DЪ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   γΩ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     рь
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     ОĀ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Db
Qy
                              Db
                                                                                  Query Match
Best Local S
Matches 263
                                                                                                                                                                                                                                                            INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                439
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      398
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            645
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       488
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     600
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           591 VYTGEELTNVVNLLKNSTFNNQNF 614
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       702
  84
                                                         24
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ZII
COMPUTEI
MEI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                APPLICANT: Choi et. al.
TITLE OF INVENTION: Streptococcus
NUMBER OF SEQUENCES: 452
CORRESPONDENCE ADDRESS:
                                                                                                                                                                                                                                         TELECOMMUNICATION INFORMATION:
TELEPHONE: (301) 309-8504
TELEFAX: (301) 309-8512
MATION FOR SEQ ID NO: 182:
SEQUENCE CHARACTERISTICS:
                                                                                                                                                                                                                                                                                                    NAME: Brookes, A. Anders
REGISTRATION NUMBER: 36,373
REFERENCE/DOCKET NUMBER: PB340P2
TELECOMMUNICATION INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                              CURRENT
                                                                                                                                                                                                                                                                                                                                                            ATTORNEY/AGENT INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                      PRIOR A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     PPSPDADVKANPTG-DSAAAIYNRVKG-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LADKYTTSDGYIFDEHDIISDEGDAYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGIL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             KNGNLI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  KEKNAI
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     --WGNASEHVLGKKDHSEDPNKNF
DHYHYYNGKVPYDAIISEELLMKDPNYKLKDEDIVNEVKGGYVIKVDGKYYVYLKDAAHA 143
                         -DHFHYIPK-
                                                                                  ch 27.8%; I Similarity 41.0%; 263; Conservative (
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          ADDRESSEE: Human Genome Sciences, STREET: 9410 Key West Avenue CITY: Rockville STATE: Maryland COUNTRY: USA
                                                                                                                                                                                                                                                                                                                                                                                                    APPLICATION NUMBER: US/09/765,272 FILING DATE: 22-Jan-2001 CLASSIFICATION: <Unknown> APPLICATION DATA:
                                                                                                                                                                                                                                                                                                                                                                         APPLICATION NUMBER: 08/961,083 FILING DATE: <Unknown>
                                                                                                                                                                                                                                                                                                                                                                                                                                                            OPERATING SYSTEM: MSDOS version SOFTWARE: ASCII Text
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   MEDIUM TYPE: Diskette, 3.50 inch, COMPUTER: HP Vectra 486/33
                                                                                                                                                                        STRANDEDNESS: sin
COPOLOGY: linear
JLE TYPE: protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ER READABLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             I-PHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIKYYVEHPDERPHSNDG--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         -VKTSHNGLDSLSSHEQDYPGNAKEMKDLDKKIEEKIAGIMKQYGVKRESIVVN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -EDGYGFDANRIIAEDESGFVMSHGDHNHYFFKKDLTEEQIKAAQKHLEE--
                                                                                                                                                                                                                    PE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   IYPHGDHHHADP---IDEH---KPVGIG--
                                                                                                                                              मं सं द
                                                                                                                                                                                                                                NGTH: 447 amino acids
                                                                                                                                                            DESCRIPTION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 20850
                                                                                                                                                                                                                   amino acid
                                                                                                                                                                         protein
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       -SNQIGQPTLPNNSLATPSP-SLPINPGTSHEKHE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    FORM:
                                                                                                                                                                                                  single
                                                                                                                                                            SEQ
                                                                                      62;
                                                                                      score 1186.5; DB 10;
Pred. No. 3.5e-67;
2; Mismatches 110;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         723
                                                                                                                                                              ID
                                                                                                                                                            N○:
                                                                                                                                                              182:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              pneumoniae
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            6.2
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      -HSHSNYELFKPEEGVAKKEGNK 590
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      --EKRIPLVRLPYMV--EHTVEV
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        1.4Mb storage
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Antigens and Vaccines
                                                                                         Indels
                                                                                                                   Length 447;
                                                                                         207;
                                                                                          Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               599
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 701
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              540
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        644
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           438
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    487
                                                                                          11;
```

γ,

```
Š
                                                                                                                                                                                                                                                                                                                                                                                                                        US-09-884-465A-384
                                                                                                                                                                                   FILE REFERENCE: 055190-0044
CURRENT APPLICATION NUMBER: US/09/884,4
CURRENT FILING DATE: 2001-06-20
PRIOR APPLICATION NUMBER: 60/212,683
PRIOR FILING DATE: 2000-06-20
NUMBER OF SEQ ID NOS: 384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    B
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Вр
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               밁
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Š
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           δÃ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               δÖ
                                                                                                                                                                                                                                                                                                                                                                                                                                        RESULT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Ър
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               дd
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Ş
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    δ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Дb
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             QY
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         B
                                                                                                                                                                                                                                                                                                                                                                                Publication No. US2 GENERAL INFORMATION
                                                                                                                                                                                                                                                                                                                                                                                                            Sequence
                                                                                                                                                                                                                                                             APPLICANT: Charland, Nathalle APPLICANT: Ouellet, Catherine TITLE OF INVENTION: Streptococcus FILE REFERENCE: 055190-0044
                                                                                                                                                                                                                                                                                                                                          APPLICANT:
                                                                                                                                                                                                                                                                                                                                                        APPLICANT:
                                                                                                                                                                                                                                                                                                                              APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                      APPLICANT:
  NAME/KEY:
                        NAME/KEY: MISC_FEATURE LOCATION: (344)..(344) OTHER INFORMATION: Xaa
                                                                NAME/KEY: MISC_FEATURE LOCATION: (1)..(1) OTHER INFORMATION: Xaa
                                                                                                         OTHER INFORMATION: Unknown
                                                                                                                        FEATURE:
                                                                                                                                  ORGANISM: Artificial Sequence
                                                                                                                                                    TYPE:
                                                                                                                                                               Q ID NO 384
LENGTH: 913
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                419
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          617
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         350
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   504
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               340
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       444
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  310
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            384
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                324
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 177
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       281
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          225
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        204
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      264
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              144
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         61
                                                                                                                                                    PRT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    AAIYNRVKGEKRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYH 658
                                                                                                                                                                                                                                                                                                                                                                                                                                                                               GFDANRIIAE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      AYVTPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         LVDDLLAFLAPITHPERLGKPNSQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGD
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               TLTAKKENVAPRDQEFYDKAYNLLTEAHKALFENKGRNSDFQALDKLLERLNDESTNKEK
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  AYIVRHGDHFHYI-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APNLKIDSNSSLVSQLVRKVGEGYVFEEKGISRYVFAKDLPSETVKNLESKLSKQESVSH
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                VAVPHGDHYHFIPYSQMSELEERIARIIPLRYRSNHWVPDSRPEQPSPQPTPEPSPGPQP
||:|||||||||||::| |||::|
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          PGTTNTNTSNNSNTNSQASQSNDIDSLLKQLYKLPLSQRHVESDGLVFDPAQITSRTARG
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       DNVRTKEEINRQKQEHSQHREGGTPRNDGAVALARSQGRYTTDDGYIFNASDIIEDTGDA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -LTTSKE-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   VAIPHGDHYHFIPYSKLSALEEKIARMVP-
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                YIVPHGDHYHYIPKNELSASELAAAEAFLSGRGNLSNSRTYRRQNSDNTSRTNWVPSVSN
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           DNVRTKDEINRQKQEHVKDNE----KVNSNVAVARSQGRYTTNDGYVFNPADIIEDTGNA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               384,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ----NTQSVAKGSTSKPANKSENLQSLLKELYDSPSAQRYSESDGLVFDPAKIISRTPNG
MISC_FEATURE (345)..(345)
                                                                                                                                                                                                                                                                                                                                                                 Shire Biochem,
                                                                                                                                                                                                                                                                                                                          Brodeur, Bernard
Martin, Denis
                                                                                                                                                                                                                                                                                                                                                   Hamel, Josee
                                                                                                                                                                                                                                                                                                                                                                                             Application US/09884465A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 ISGTGSTVSTNAK --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             -PKSNQIGQPTLPNNSLATPSPSLPI -- NPGTSHEKHEEDGY 418
                          Glycine
                                                                  Methionine
                                                                                                       Organism
                                                                                                                                                                                                                                                         US/09/884,465A
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           LSSA-
                           ဝင္
                                                                                                                                                                                                                                                                                Antigens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                           -DESGFVMSHGDHNH 442
                        nothing
                                                                  or
                                                               nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            --PNEVVSSLGSLSSNPSS--
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                -SDGYIFNPKDIVEETAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        -TGDSA
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        616
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          563
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    443
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 366
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     349
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                503
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           339
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          383
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   280
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  263
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            176
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              323
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  120
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         224
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      203
```

```
RESULT 15
US-09-884-465A-37
        QУ
                                                                                                                                     US-09-884-465A-37
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 DЬ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            VО
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      g
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Qy
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           В
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Db
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      QУ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   ; OTHER INFORMATION: US-09-884-465A-384
                                                  Best Loc
Matches
                                                                                        Query Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                 SEQ
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        GENERAL INFORMATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         Sequence 379, in Publication No.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Query
Best L
                                                                                                                                                     NAME/KEY: MISC_FEATURE LOCATION: (344)..(344) OTHER INFORMATION: Xaa = NAME/KEY: MISC_FEATURE LOCATION: (345)..(345) OTHER INFORMATION: Xaa =
                                                                                                                                                                                                                                                           NAME/KEY: MISC_FEATOLOCATION: (1)..(1)
OTHER INFORMATION:
OTHER MISC_FEAT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Matches
                                                                                                                                                                                                                                                                                                                                                                                                                                                                             SOFTWARE:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             PRIOR FILING
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   PRIOR
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             CURRENT APPLIC
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        CURRENT
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      TITLE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           NUMBER
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 APPLICANT:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            APPLICANT:
                                                                                                                                                                                                                                                                                                                                                    OTHER INFORMA
                                                                                                                                                                                                                                                                                                                                                                                                                     TYPE: PRT
                                                                                                                                                                                                                                                                                                                                                                         FEATURE:
                                                                                                                                                                                                                                                                                                                                                                                                 ORGANISM: Art
                                                                                                                                                                                                                                                                                                                                                                                                                                         LENGTH: 1152
         507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ID
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          718
                                                                 Locai
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             302
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      770
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                242
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     182
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            687
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      122
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        ICANT: Ouellet, Catherine
LE OF INVENTION: Streptococcus Antigens
REFERENCE: 055190-0044
RENT APPLICATION NUMBER: US/09/884,465A
RENT FILING DATE: 2001-06-20
DR APPLICATION NUMBER: 60/212,683
DR FILING DATE: 2000-06-20
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 627
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         507
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    567
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           62
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Local
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Match
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               Ŋ
                                                                                                                                                                                                                                                                                                                                                                                                                                                              NO
DLLAFLAPITHPERLGKPNSQIEYTEDEVRIAQLADKYTTSDGYIFDEHDIISDEGDAYV 566
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          KRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIK|::|| |::|| |::|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| ||:|| 
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ATETLAGLRNNLTLQIMDNNSIMAEAEKLLALLKGSNPSSV 810
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             TPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 11 Simi:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       YYVEHPNERPHSDNGFGNASDHVRKNKADQDSKPDEDKEHDEVSEPTHPESDEKENHAGL
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         YYVEHPDERPHSNDGWGNASEHVLGK --
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                NPSADN
                                                                                                                                                                                                                                                                                                                                                                                                                                                              : PatentIn
379
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              189;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  Similarity
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Shire
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              Brodeur,
Martin, [
Charland,
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            Hamel,
                                            23.2%;
nilarity 55.4%;
Conservative 4
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Application US/09884465A US20030077293A1
                                                                                                                                                                                                                                                                                                                                                  ATION:
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      harland, Nathalie
wellet, Catherine
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       79
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   C_FEATURE
                                                                                                                                                                                                                                                                                                                                                                                         ificial Sequence
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Conservative
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Biochem, Inc.
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  version 3.1
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Josee
                                                                                                                                                                                                                                                                                      Xaa
                                                                                                                                                                                                                                                                                                                                                   Unknown Organism
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    Denis
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Xaa = Proline or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      Bernard
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                23.2%;
                                                                                                                                                                                                                    Glycine or
                                                                                                                                                      Proline
                                                                                                                                                                                                                                                                                      Methionine
                                             ; Pred.
45; Mi
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             45; Mismatches
                                         Score 991.5; DB 9; Pred. No. 2.8e-54; Mismatches 70;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                Score 991.5; DB Pred. No. 2e-54;
                                                                                                                                                      or
                                                                                                                                                     nothing
                                                                                                                                                                                                                    nothing
                                                                                                                                                                                                                                                                                 or nothing
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ----KDHSE----
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   DB 9;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         70;
                                            Indels
                                                                                  Length
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Indels
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   Length 913;
                                                                                   1152;
                                        37;
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         37;
                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Gaps
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         301
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     61
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                769
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      686
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                121
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           241
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               181
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           626
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     717
                                        2
```

Qy Db	Qу	Qу	ОУ	Оу	Db
770 ATETLAGLRNNLTLQIMDNNSIMAEAEKLLALLKGSNPSSV 810 	718DPNKNFKADEEPVEETPAEPEVPQVETEKVEAQLKEAEVLLAKVTDSSLKAN 769 : : : : :: ::	687 YYVEHPDERPHSNDGWGNASEHVLGKKDHSE 717	627 KRIPLVRLPYMVEHTVEVKNGNLIIPHKDHYHNIKFAWFDDHTYKAPNGYTLEDLFATIK 686 :: : : : : : :	567 TPHMGHSHWIGKDSLSDKEKVAAQAYTKEKGILPPSPDADVKANPTGDSAAAIYNRVKGE 626 	:

Search completed: May 19, 2003, 08:24:12 Job time: 242.436 secs